

EXHIBIT 10
[FILED UNDER SEAL]

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UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF TEXAS

STATE OF TEXAS et al.,
Plaintiffs

vs.

GOOGLE LLC,
Defendant

Case Number 4:20-cv-00957

EXPERT REBUTTAL REPORT OF JEFFREY S. ANDRIEN

SEPTEMBER 9, 2024

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TABLE OF CONTENTS

I.	INTRODUCTION	1
II.	SUMMARY OF OPINIONS.....	2
III.	RESPONSES TO WIGGINS REPORT	8
A.	THE WIGGINS REPORT MISREPRESENTS THE FRAMEWORK I USED TO CALCULATE STATUTORY PENALTIES.....	8
<i>a.</i>	<i>The Methodology Used in My Opening Report is Reliable and Generally Accepted.....</i>	<i>9</i>
<i>b.</i>	<i>The Wiggins Report's Misstatements and Misrepresentations of the Methodology Used in the Andrien Report</i>	<i>14</i>
B.	THE PENALTIES ANALYSIS IN THE WIGGINS REPORT IS CONTRADICTED BY THE ECONOMIC LITERATURE ON DETERRENCE AND DOES NOT APPROPRIATELY ASSESS THE AMOUNT NECESSARY TO DETER IMPROPER CONDUCT	21
C.	THE WIGGINS REPORT CONTAINS AN INCORRECT ASSESSMENT OF GOOGLE'S BENEFIT FROM ITS MISCONDUCT.....	30
<i>a.</i>	<i>The Wiggins Report's Incremental Profit Analysis is Flawed and Unreliable....</i>	<i>30</i>
<i>b.</i>	<i>The Wiggins Report Disregards the Significant Indirect Benefits Derived by Google from Violating DTPA Statutes.....</i>	<i>40</i>
<i>c.</i>	<i>Google's Revenue is a Relevant Measure to Consider in Determining Appropriate Civil Penalties</i>	<i>46</i>
D.	THE WIGGINS REPORT'S CLAIMS THAT GOOGLE'S HISTORY OF PRIOR VIOLATIONS DISCUSSED IN MY OPENING REPORT IS DISSIMILAR TO THE CONDUCT AT ISSUE HERE IS INCORRECT.....	48
E.	THE WIGGINS REPORT IMPROPERLY QUANTIFIES AND SIGNIFICANTLY UNDERSTATES VIOLATION COUNTS	61
<i>a.</i>	<i>Google Deceived and Misled Auction Participants into Believing That AdX Ran a Second-Price Auction</i>	<i>61</i>
<i>b.</i>	<i>A Query's Origination Location is Not the Only Relevant Geographic Metric ..</i>	<i>66</i>
<i>c.</i>	<i>In-App Transactions Were Also Affected by Google's Conduct</i>	<i>72</i>
<i>d.</i>	<i>Opinions Included in the Wiggins Report Regarding "Business-to-Business" Transactions and Statutes of Limitations Rest on Faulty Legal Assumptions, and he Improperly Removes Transactions That Are Still Subject to the Court's Decision Making Process</i>	<i>73</i>
<i>e.</i>	<i>The Wiggins Report's Method for Allocating Transactions to the States is Flawed</i>	<i>76</i>
<i>f.</i>	<i>The Wiggins Report Inappropriately Cuts Off the Measurement Time Period for Transactions Impacted by RPO, DRSv2, Bernanke, and Equal Footing.....</i>	<i>78</i>
<i>g.</i>	<i>The Wiggins Report Inappropriately Excludes Transactions That It Claims "Cannot be Affected" by Google's Misconduct</i>	<i>80</i>
IV.	RESPONSES TO SKINNER REPORT	84

HIGHLY CONFIDENTIAL

A.	THE SKINNER REPORT’S CRITIQUES OF MY DISPLAY REVENUE AND PROFIT ANALYSES DO NOT AFFECT MY OPINION	84
a.	<i>The Skinner Report’s Critique Regarding Indirect Costs is Invalid and Irrelevant</i>	84
b.	<i>The Skinner Report’s Critique Regarding Display Revenue is Irrelevant</i>	86
B.	THE SKINNER REPORT INCORRECTLY MINIMIZES GOOGLE’S OVERALL FINANCIAL PERFORMANCE AND ITS ABILITY TO PAY PENALTIES.....	88
a.	<i>The Overall Financial Performance of Alphabet and Google is Relevant for Purposes of Determining an Appropriate Civil Penalty</i>	88
b.	<i>Google’s Financial Performance From 2013 to Present Has Been Extraordinary</i>	89
c.	<i>Comparison of Google Financial Performance to Relevant Market Indices</i>	92
C.	UPDATED DVAA P&L INFORMATION	94
V.	CONCLUSION	96

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I. INTRODUCTION

1. I, Jeffrey Andrien, previously filed an expert report in this matter on June 7, 2024 (“Opening Report”). My qualifications, experience, and compensation are described in the Opening Report and my CV is an appendix to that report. I attach an updated CV to this report as **Appendix 1**.

2. Since the time of my Opening Report, I have reviewed the Expert Report of Professor Steven N. Wiggins (“Wiggins Report”) and the Expert Report of Douglas Skinner (“Skinner Report”), each filed on July 30, 2024. I have also reviewed various other response and rebuttal expert reports filed on behalf of the parties in this matter. As indicated herein, some of my opinions in this report rely in part on my review of the expert reports of Dr. Gans, Dr. Weinberg and Dr. DeRamus. I have also been provided access to the document database as well as all depositions related to this litigation. The materials I have relied upon in forming my opinions are listed in my updated list of materials relied upon, attached to this report as **Appendix 2**.

3. I have been asked by the Lanier Law Firm PC, counsel for certain states on behalf of all states that are plaintiffs in this matter (collectively, the “Plaintiff States”)¹ to evaluate and respond to the opinions contained in the Wiggins Report and the Skinner Report.

4. Throughout this report, I respond to criticisms and comments that Professor Wiggins and Professor Skinner make regarding the analyses and opinions I proffered in my Opening Report. To the extent that there are opinions of Professor Wiggins or Professor Skinner that may not be addressed in this report, that does not mean that I agree with such opinions.

¹ Unless otherwise specified, capitalized terms are defined in the same manner as in my Opening Report. For example, the Plaintiff States includes the Commonwealths of Kentucky and Puerto Rico. *See* Andrien Opening Report, footnote 1.

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5. In addition, it is my understanding that document productions remain ongoing, and that Google and third-parties may produce additional documents in this matter. I further understand that in a parallel case pending in the Eastern District of Virginia, witnesses for Google, the United States Department of Justice, and other plaintiffs will offer expert and fact witnesses to testify in that trial. Accordingly, I reserve the right to review and rely on any additional documents and testimony in conducting my analyses and forming my opinions and conclusions in this case. I reserve the right to supplement or amend this report should my opinions change or need supplementation as a result of my ongoing review of documents and/or testimony.

II. SUMMARY OF OPINIONS

6. After reviewing the Wiggins Report and the Skinner Report, my expert opinions as presented in my Opening Report remain unchanged. To the extent that certain comments or criticisms cause me to alter any of my analyses, I note those in this report; however, any such alterations do not change my overarching conclusions as expressed in my Opening Report, including but not limited to my conclusions regarding the total penalty amounts necessary to have a deterrent effect on Google in the event it is found liable for the alleged misconduct.

7. With regards to the Wiggins Report, I hold the following opinions:

- a. The Wiggins Report misrepresents the reliable, generally accepted methodology I used and ignores the factors I considered in determining the ranges of statutory penalties proposed in my Opening Report. This misunderstanding alone undermines and invalidates his critiques. Additionally, the conclusions and criticisms of the reliable, generally accepted methodology I employed are based on Professor Wiggins' own flawed methodology that is inconsistent with the record produced in this case, including Google's own documents and testimony, as well as economic literature.

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- i. As explained below, I used a reliable, generally accepted methodology in my analyses and calculations of statutory penalties in my Opening Report. I have taught these techniques at both the graduate and undergraduate levels and used such analyses to develop my opinions in numerous cases throughout my career. None of the opinions I have expressed based on these methodologies have ever been excluded by the courts.
 - ii. I employed a methodology that used a non-linear and holistic approach to assessing penalties.
 - iii. Given the non-linear and holistic nature of the approach I use to determine penalties, even if the finder of fact determines that violation counts should be reduced as proposed in the Wiggins Report (reductions which, in my opinion are incorrect, [REDACTED]), the appropriate total penalty amounts for Google's deceptive misconducts should be no less than the lower bounds expressed herein and in my Opening Report, and, as I wrote in my Opening Report, at the determination of the finder of fact, could be *even higher* than the upper bounds presented in my Opening Report.
- b. The penalties analysis in the Wiggins Report is contradicted by the economic literature on deterrence and does not appropriately assess the amount necessary to deter improper conduct.
- i. The Wiggins Report's assertion that the amount of the penalty should be limited to Google's incremental benefits from the alleged misconduct is contradicted by the economic literature on deterrence. This literature establishes that because the probability of detection is less than 100 percent, to establish deterrence, the penalty,

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at minimum, must be higher than the greater of the external harm or benefit to the offender. Additionally, the economic literature allows for the wealth of the offender to be considered in setting a penalty. In fact, scholars have also argued that, under certain circumstances, the optimal penalty to establish deterrence is maximal, i.e. as much as the offender can pay.

- ii. The Wiggins Report does not contain any analysis to show that the penalties he proposes are sufficient to deter not just Google, but also other potential offenders, from engaging in similar misconduct.
 - iii. The factors I considered and analyses I performed in my Opening Report are consistent with the economic literature, as well as statutory requirements and case law precedent.
- c. The Wiggins Report contains a substantially understated assessment of Google's benefits from the alleged misconduct.
- i. Google's testimony and documents indicate that the quantification of Google's benefits from each auction mechanism cannot be performed based on currently available information. Nevertheless, Professor Wiggins attempts to perform such an analysis. However, Professor Wiggins quantification of Google's direct incremental benefits conflicts with and understates the benefits from Bernanke and RPO indicated in Google's contemporaneous estimates.
 - ii. The Wiggins Report disregards the significant indirect benefits derived by Google from violating DTPA statutes, including those recognized in Google's own documents.

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- iii. Contrary to Professor Wiggins' assertions, Google's revenue is a relevant measure to consider in determining appropriate civil penalties.
- d. The Wiggins Report's claims that Google's history of prior violations discussed in my Opening Report should be ignored because it involves fines and settlements for misconduct that is not similar to the misconduct at issue here is incorrect. Professor Wiggins' classification of certain fines and settlements as privacy related is misleading. Contrary to Professor Wiggins' assertions, the settlements he classifies as privacy-related include settlements for alleged deceptive conduct that violates deceptive trade practices statutes of various jurisdictions. Additionally, the claims that certain fines and settlements should be disregarded because they occurred in foreign jurisdictions, or did not violate deceptive trade practices acts, is unsupported and illogical.
 - i. The examples of Google's history of prior violations discussed in my Opening Report establish that Google: (i) has history of engaging in deceptive and anticompetitive conduct; and (ii) the previous fines and settlements have been insufficient to deter it from engaging in such conduct.
- e. The Wiggins Report's violation counts improperly exclude auctions that should be included.
 - i. All auctions during the relevant period were tainted by Google's alleged misconduct. During this period Google falsely, misleadingly, and deceptively misrepresented the entire AdX auction model as a second price auction when it was not and stated that all participants were on equal footing in AdX auctions when in fact they were not. The opinions of Dr. Weinberg support this conclusion. The Wiggins Report improperly excludes transactions after insufficient and incomplete

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“disclosures” and improperly excludes transactions that he claims “cannot be affected” by Google’s misconduct, despite evidence to the contrary.

- ii. The Wiggins Report fails to consider the geographic location of publishers and advertisers, and as a result excludes transactions where these entities are based in the United States. The Wiggins Report makes the same oversight when estimating the share of transactions associated with Plaintiff States.
- iii. The Wiggins Report improperly excludes in-app transactions despite evidence in the record that demonstrates in-app transactions were subject to Google’s deceptive misconduct.
- iv. The Wiggins Report inappropriately excludes transactions that are still subject to the Court’s decision for certain Plaintiff States.

8. With regards to the Skinner Report, I hold the following opinions:

- a. The Skinner Report includes critiques about my display advertising revenue and profit analyses that are either invalid or irrelevant.
 - i. The Skinner Report claims that certain indirect costs are not reflected in the DVAA P&Ls I relied upon, however he disregards the fact that this information either does not exist or was not produced in discovery despite being requested by the Plaintiff States. Professor Skinner also fails to identify a single category of indirect costs he claims are not reflected in the DVAA P&Ls. He fails to perform any analysis of the economic drivers of the indirect costs he claims are reflected in the DVAA P&Ls. The Skinner Report further disregards the fact that the penalty amount can and should exceed Google’s incremental profits when deterrence is considered.

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- ii. With regard to display revenue, the Skinner Report's critiques are invalid as it, like the Wiggins Report, incorrectly argues that revenue and profits related to AdMob, AdSense for Content, and Campaign Manager should not be included in my analysis. As I explain in my reports, there is ample evidence to suggest these should all be included in my analysis.
- b. The Skinner Report incorrectly minimizes Google's overall financial performance and its ability to pay penalties.
 - i. The Skinner Report suggests that, for purposes of determining an appropriate civil penalty, the overall performance of Alphabet and Google is overinclusive. However, Professor Skinner disregards that the products "at issue" in this matter are part of interconnected misconducts that provide both direct and indirect benefits to Google, and thus its parent Alphabet. In order to deter future violations, a penalty must thus eliminate Google's financial incentive to engage in the alleged misconduct, necessitating consideration of Google and Alphabet's overall financial performance.
 - ii. Google's performance over the 2013-2023 period has been extraordinary in any sense of the term and is thus highly relevant to my opinions. Assessing the overall wealth of the alleged offender is also supported by the literature on deterrence. Professor Skinner argues that my analysis is solely based on Google's performance when analyzed using "financial measures," but he disregards that using public data and ratios to evaluate performance is a common and accepted practice in the context of litigation. Furthermore, Google's performance has been extraordinary over the relevant time period measured against its peers.

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iii. With regard to market indices to which I compare Google's performance, I find that the indices provide a clear and solid benchmark. While the Skinner Report questions the relevance of this comparison, the indices I consider are commonly used to benchmark and assess the performance of firms. Furthermore, Google itself compares its stock market performance to these same indices in its annual reports.

9. The range of penalties presented in my Opening Report is conservative given the considerations outlined in this report and in my Opening Report. The trier of fact may also consider additional factors beyond those I have analyzed that may increase (or decrease) penalties from my range.

III. RESPONSES TO WIGGINS REPORT

A. The Wiggins Report Misrepresents the Framework I Used to Calculate Statutory Penalties

10. Professor Wiggins asserts that the "framework" I used in my Opening Report is limited to an "approach that penalizes Google for at least the benefits it gained associated with the alleged misconduct."² This is an incorrect and incomplete description of my analysis.³ Professor Wiggins selectively quotes excerpts from my Opening Report while ignoring immediately adjacent content that explicitly contradicts his characterization. To illustrate how the Wiggins Report mischaracterizes the framework I used, below I reproduce one relevant section of my Opening Report with the partial sentences as cited in the Wiggins Report underlined, and the complete text the Wiggins Report omitted emphasized in bold.

From a financial and economic perspective, to deter future violations, the total penalty must eliminate Google's financial incentive to engage in the alleged misconduct. If it remains beneficial for Google to engage in the misconduct after paying a

² Wiggins Report, ¶103.

³ See Andrien Opening Report ¶¶106-107 (emphasis added).

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penalty, Google will retain a financial incentive to continue engaging in the misconduct and simply view the penalty as a cost of doing business. **One way to frame the appropriate amount to deter future bad behavior is to consider an approach that penalizes Google for at least the benefits it gained associated with the alleged misconduct. However, there are three issues to note with this approach.**

First, while the Plaintiff States' deceptive trade practices statutes have caps on the amount of the penalty per violation, **these statutes do not limit the penalty amount to the financial benefits from the misconduct. Therefore, the penalty amount per violation can exceed the amount of financial benefit generated by the misconduct**, as long as the penalty amount is within the penalty cap specified in each Plaintiff State's deceptive trade practices statute.

Second, if the defendant may continue to enjoy future benefits from the alleged misconduct, the historical benefits may not capture the total benefit from the misconduct. **Limiting the penalty only to historical benefit in such cases would fail to deter future violations because the misconduct would still be beneficial.**

Third, even a penalty equal to the entire amount of financial benefit from the alleged misconduct may be insufficient to completely eliminate a defendant's financial incentive to engage in future misconduct. This is because if the penalty amount is limited to only the amount of the historical financial benefits associated with the misconduct, the expected value of engaging in future misconduct may still be positive if a defendant perceives that there is a less than 100 percent probability that it will be caught and found liable for future misconduct and/or perceives some other ancillary, indirect, or intangible benefit by engaging in the misconduct.⁴

a. The Methodology Used in My Opening Report is Reliable and Generally Accepted

11. I used a reliable, generally accepted methodology to calculate statutory penalties in my Opening Report. As stated in my Opening Report, my analysis of the statutory penalties that

⁴ Andrien Opening Report, ¶¶106-107.

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should be assessed against Google is primarily based on an analysis of three factors: (1) the amount necessary to deter future misconduct; (2) the history of past violations; and (3) the ability of the offending party to pay a penalty.⁵ For some Plaintiff States, these factors are defined in their statutes (e.g. Texas, Utah). For others, I am advised by counsel that these factors are recognized in case law (e.g. South Carolina). As set forth in my Opening Report, the penalty range I propose is based on a holistic approach that considers all three economic factors that I evaluate using reasonable, reliable, and generally accepted economic principles and methodologies, which I discuss in more detail below.⁶ Therefore, even when the text of a particular Plaintiff State statute does not expressly list factors, it is my opinion that these three factors are still appropriate to consider. Furthermore, I explicitly listed several additional relevant factors that a trier of fact may consider in assessing penalty amounts different from what I proposed—including the bad faith of the defendant, the duration and extent of the defendant's unlawful conduct, active concealment of information by the defendant, the defendant's awareness of the unfair, deceptive, or illegal nature of their conduct, and any other matters that justice may require.⁷

12. Professor Wiggins' contention that my proposed per penalty amounts lack an economic basis is incorrect.⁸ In my Opening Report, I set forth the economic bases for my proposed per-penalty amounts, which are based on a variety of economic literature and theories related, in part, to deterrence.⁹ As I explained in my Opening Report, one guiding principal underlying my framework regarding proposed per-penalty amounts is the deterrence factor considered in assessing the total amount of civil penalties, as well as the related factors addressing the economic

⁵ Andrien Opening Report, ¶7.

⁶ Andrien Opening Report, ¶11.h.

⁷ See, e.g., Andrien Opening Report, ¶¶7, 11(g)-(h), 58, 64-65, 69-70, 72-75, 103.

⁸ Wiggins Report, ¶167.

⁹ Andrien Opening Report, § IV.F.

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impact on Google and Google's history of previous violations. With these factors in mind, I first calculated the maximum total penalty to Google using the maximum per-violation penalty in each Plaintiff State and the maximum violation count related to Google's misconduct.¹⁰ This results in a penalty of [REDACTED] Given the vast number of violations, I determined that a per-penalty amount below the maximum per-penalty amounts for each Plaintiff State would still result in a significant total penalty. And thus, next, I determined a range of total penalties that "could have a sufficiently meaningful impact on Google's financial position to act as a deterrence of future violations,"¹² considering the available information on the direct, indirect, historical, and future benefits to Google from its misconduct, Google's financial position, and Google's history of previous violations, fines, and settlements that were insufficient to deter Google from future misconduct. From there, I determined a range of proposed per-violation penalty amounts for Google's misconducts based on the violation counts I assumed.¹³ I support these analyses and conclusions with other reliable and commonly used financial analyses, such as financial statement analyses, profit analyses, growth analyses, and revenue analyses.¹⁴

13. Specifically, in my Opening Report, I first analyzed Google's historical financial performance from information I gleaned from S&P Capital IQ (a company that is world-renowned for providing financial information and analytics to investment firms, banks, corporations, and academic institutions)¹⁵ and various financial statements that Google filed with the Securities and Exchange Commission and/or produced in connection with this litigation. Not only were these

¹⁰ Andrien Opening Report, ¶¶103-105.

¹² Andrien Opening Report, ¶129.

¹³ Andrien Opening Report, § IV.H.

¹⁴ Andrien Opening Report, § IV.F, § IV.G, § IV.I.

¹⁵ S&P Capital IQ Pro | S&P Global Market Intelligence (spglobal.com).

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data supporting my analyses and opinions reliable, but so too are the types of analyses I performed, such as CAGR calculations, profits calculations, and market capitalization calculations, which are routinely performed in and outside of the litigation context. They are concepts I teach to both graduate and undergraduate students at the McCombs School of Business at the University of Texas at Austin, and ones that I have employed and have been accepted in various litigations, including in cases that have gone to trial. I performed these calculations in my Opening Report in this case, when appropriate, to understand Google's overall corporate performance, its performance in the Plaintiff States, and in the Google business segment at issue in this case.

14. In addition to the financial data described above, I also analyzed the documents produced in this case, deposition testimony, and other materials in an effort to understand the benefits that Google derived from the misconducts at issue in this case. Due to the unavailability of and the limitations of the data produced by Google in this matter, I determined that incremental profit analyses were not possible for several reasons, as I documented throughout my Opening Report, as well as in this Rebuttal Report. For example, when the Plaintiff States requested documents from Google about the revenue and profits attributable to the misconducts at issue in this case, [REDACTED], a software engineer at Google, submitted a declaration on May 24, 2024 in support of Google's objections and responses to the Plaintiff States' requests in which he stated that: [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

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fundamentally sound methodologies and peer-reviewed principles that are routinely taught and used in the field of financial economics, as well as in corporate litigation. Furthermore, the conclusions I have reached using these methodologies and principles will be useful and informative to the triers-of-fact, who would not be expected to have the financial and economic expertise necessary to conduct them, as they require specialized training, skill, and experience.

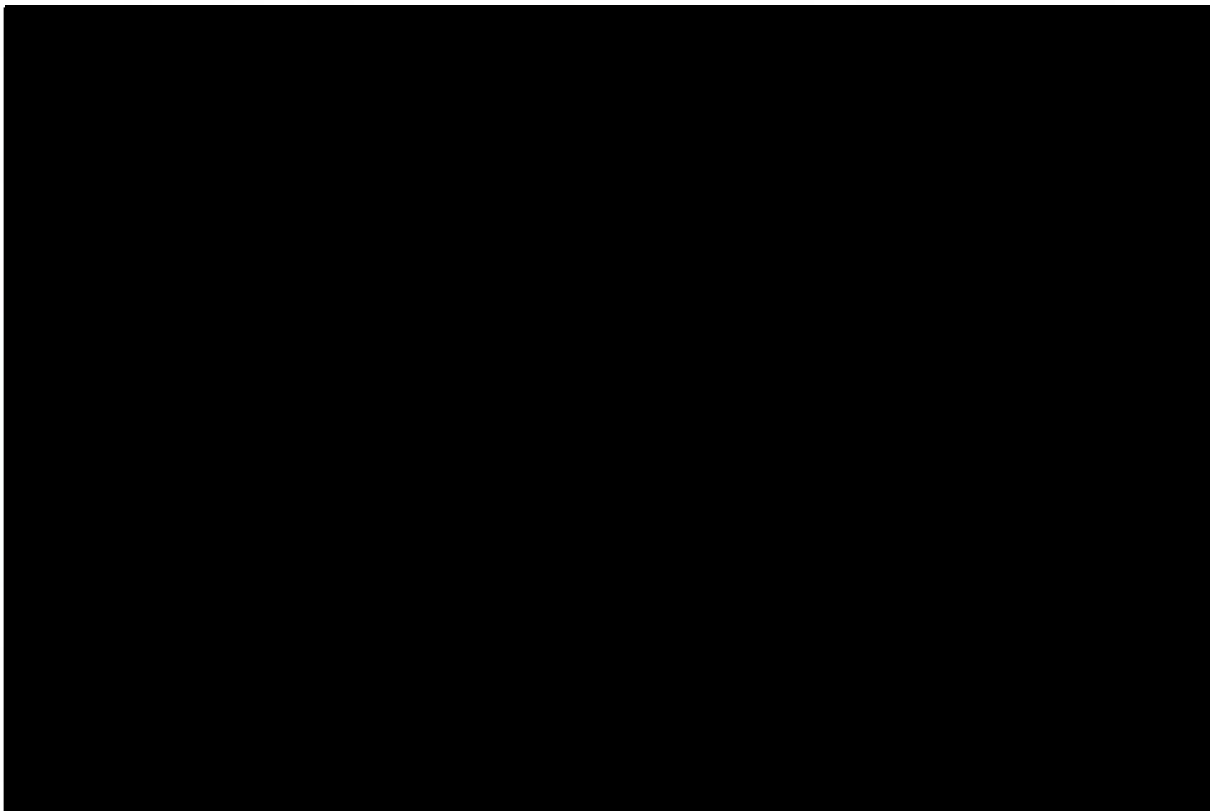
b. The Wiggins Report's Misstatements and Misrepresentations of the Methodology Used in the Andrien Report

17. The penalties I have advanced in my Opening Report are conservative and economically justified, as (subject to the trier of fact's adjustment as discussed above) they are sufficient to deter Google from future misconduct, and they are a mere fraction of the maximum statutory penalties set by the various state legislatures. The Wiggins Report's efforts to pare down my proposed penalties to reflect Google's self-serving and artificial limitations on the scope of its own misconduct betrays established economic principles, misrepresents my already conservative framework, and flouts the deterrence goals of the public enforcement regimes.

18. The Wiggins Report did not faithfully describe the methodology I used, criticizing the framework in my Opening Report as "multiplying two inputs"¹⁹—a violation count and a penalty amount per violation—thus mischaracterizing the framework as constant and linear when it is not, and ignoring the crux of my opinions on, and the importance of, deterrence in assessing adequate civil penalties. Instead, I employed a methodology using a non-linear approach to assessing penalties, as shown in **Figure 1** below.

¹⁹ Wiggins Report, ¶106.

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Source: DeRamus Report, Figure 2. Addition of green bar is my own.

19. Figure 1 depicts, in the abstract, a function where the violation amount starts at the statutory limit and remains flat as the violation count goes up, but then decreases and asymptotes with the x-axis as the number of violations continues to increase toward infinity. [REDACTED]

[REDACTED]

[REDACTED]

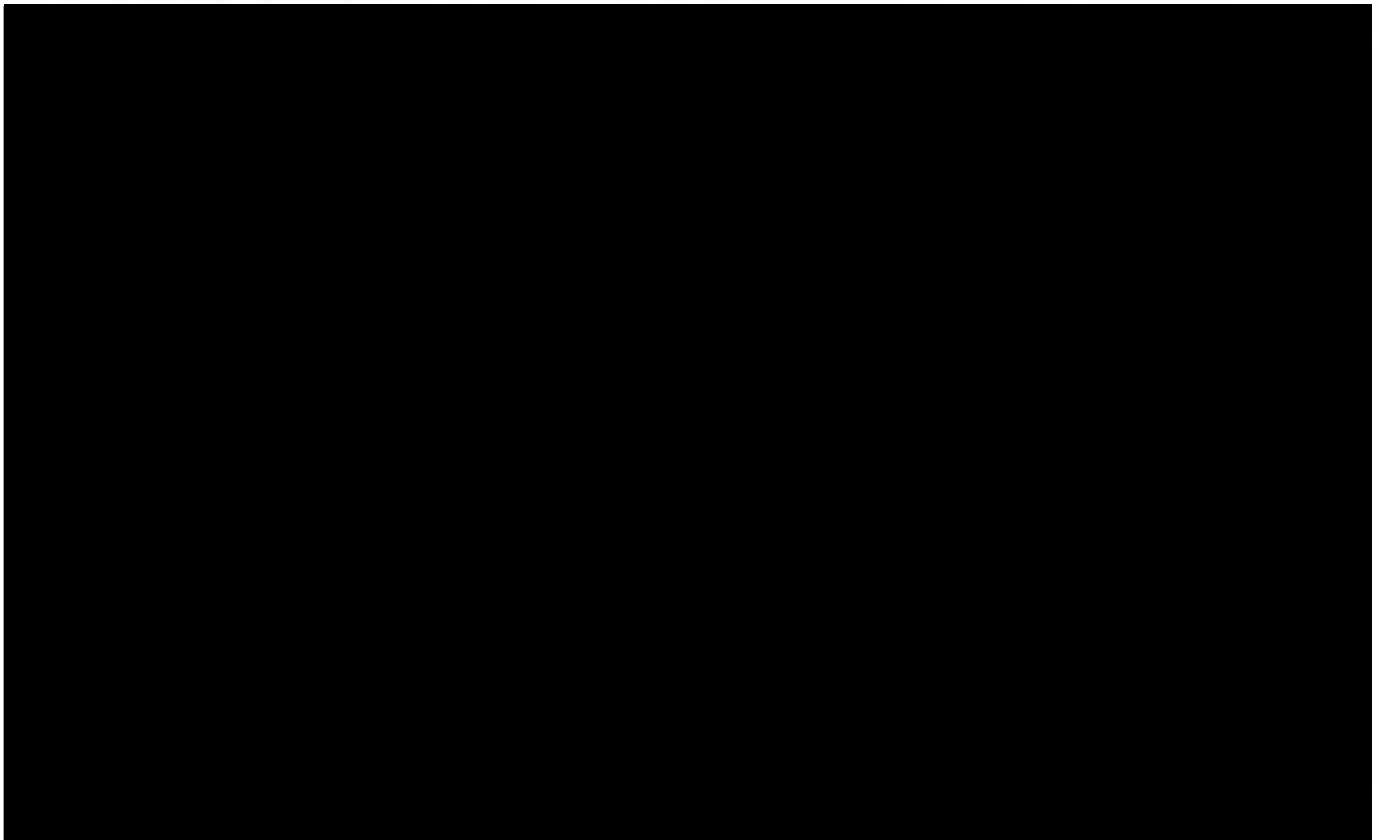
[REDACTED] [REDACTED]

[REDACTED]

[REDACTED]. On the flattened part of this curve, these movements are neither constant nor a one-for-one movement (i.e., every additional violation does not require a constant decrease in the penalty amount and vice versa). The Wiggins Report, however, does assume a one to one reduction where the penalty reduces in direct proportion to the number of violations, (i.e., half the violations begets half the penalty), which is incorrect, given the area of the curve

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associated with Google's violation counts. **Figure 2**, below, puts this concept into the context of overall penalty amounts.



Source: DeRamus Report, Figure 1. Addition of red dot is my own.

20. [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]

■ [REDACTED]

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[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] Thus, under this model, which follows the generally accepted economic theory on deterrence I discuss more fully below, the amount per violation will not necessarily linearly change should the number of violations change.

21. Additionally, the Wiggins Report does not articulate any opposing methodology, nor does it explain why the generally accepted methodology I employed in my Opening Report is not reliable or acceptable; indeed, the Wiggins Report adopts the calculated amounts for reductions without any adjustment, even though the Wiggins Report acknowledges that the statutory range is far in excess (up to \$10,000 per violation for some states and even greater in others)²¹ of the [REDACTED] range I opined was appropriate for misconduct [REDACTED]. Nor does the Wiggins Report contain any meaningful methodology, discussion, or explanation of the relevant factors to consider in determining statutory civil penalties, and he wholly ignores the importance of deterrence in assessing such penalties. In fact, it does not appear that Professor Wiggins made any attempt to understand the relevant factors to consider – his list of materials considered does not mention any of the relevant statutes or applicable cases, and he also does not mention any instructions or explanations provided to him by counsel.

22. The Wiggins Report appears to ignore that my opinions are focused on the *total penalty amounts* necessary to deter future misconduct,²² and should the trier of fact determine that the *total violation count* is less than I assume, I have seen no basis—including the flawed analysis

²¹ See, e.g., Andrien Opening Report, Table 3.

²² See, e.g., Andrien Opening Report, ¶7 (emphasis added); see also, ¶11(f) (“To deter Google from continuing its misconduct, the *penalty* must eliminate Google’s financial incentive to engage in the misconduct.”)

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in the Wiggins Report—that the total violation count would go so low as to support a substantive change in the *total penalty amounts* calculated in my initial report, which again, are necessarily tied to deterrence.²³ [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]²⁴ I concluded that total penalties for Bernanke violations alone between \$7.27 billion and \$21.81 billion are appropriate based on the factors I analyzed. Further, I determined that “Google can pay a penalty at least as high as \$29.08 billion without impacting its day-to-day operations or bankrupting the company.”^{25, 26} Again, these numbers are only based on the factors I reviewed, and the trier of fact may increase (or decrease) them based on their analysis of other factors. Indeed, a reasonable juror may decide that the appropriate penalty is up to and may even exceed the higher bounds for total penalties as presented in my Opening Report.

23. The non-linear nature of the per-penalty amount / total penalty amount curve is also precisely why I discussed the necessary adjustability of the framework I used in my Opening Report, where I highlighted that “[m]y analysis allows for flexibility to allow the trier of fact to

²³ [REDACTED]

²⁴ See Andrien Opening Report, ¶127, footnote 315.

²⁵ Andrien Opening Report, ¶11.

²⁶ I note further that the trier of fact may believe, due to the magnitude of the number of violations, that an appropriate penalty *should* impact Google’s day to day operations in order to have a deterrent effect.

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determine penalties,”²⁷ and that the data on which my analysis relies allows me to adjust violation counts, and why throughout my Opening Report, I reserved my right if necessary to adjust my calculations were the violation counts to change (either upwards or downwards).²⁸ Instead, it appears that Professor Wiggins attempts to redefine and limit the methodology I used by inappropriately imposing requirements for quantification of monetary *damages* (rather than civil penalties), and to limit the amount of penalties to the estimated past incremental profit Google gained from the alleged misconduct.²⁹ But this is incorrect. The Plaintiff States are seeking statutory civil penalties for DTPA violations in this case. As such, the relevant requirements in this case are those that are necessary to determine penalties. As explained further below, the appropriate amount of civil penalties is not limited to Google’s estimated past incremental profit from the misconducts, and the Wiggins Report also does not provide any authoritative source that makes such a claim.

24. Simply put, as I previously opined, the total penalty to Google for its misconduct cannot simply be based on the direct benefits it received from its misconduct. Rather, a substantial civil penalty in excess of the direct benefits a company gains from its misconduct is essential to deterring future misconduct, in part because a “business that faces no potential penalty beyond returning its ill-gotten gains may be tempted to engage in unfair and deceptive practices,” and “[i]f

²⁷ See, e.g., Andrien Opening Report, ¶11(h).

²⁸ See, e.g., Andrien Opening Report, ¶100, footnote 278.

²⁹ For example, while Professor Wiggins states that “According to Mr. Andrien, penalties should be limited to the *incremental* benefits Google received *from the alleged deception*,” see Wiggins Report, ¶117 (emphasis in Wiggins Report), he mischaracterizes the framework I used and suggests that I imposed certain limitations that I did not. Professor Wiggins appears to gloss over the fact that I opined that but “*one way*” to frame the appropriate amount to deter future bad behavior involves “*at a minimum*,” penalizing Google for “*at least*” the total incremental benefits (including future benefits) it gained from the alleged misconduct. See, e.g., Andrien Opening Report, ¶11(f), ¶106. In other words, I opined that an incremental benefit analysis was but one way to frame the appropriate penalty amount sufficient for a deterrent effect and that any incremental benefit to Google for its alleged misconducts would merely be the starting point of such analysis, but, as explained below, I was unable to conduct a complete and accurate incremental benefits analysis because Google did not produce or does not maintain records that are complete, accurate, and reliable enough to do so, and the records that Google did produce are insufficient and unreliable.

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it is caught, it simply ends up back where it started”—which is wholly insufficient to have a deterrent effect.³⁰ This is why the analysis I conducted discussed the direct benefits to Google from their misconducts only as a minimum baseline in considering a total penalty amount.³¹ Moreover, economic literature also supports that to establish deterrence, the penalty assessed must be greater than the defendant’s profits from the misconduct because the probability of being caught and found liable is less than 100 percent.³²

25. Professor Wiggins’ misunderstanding of the methodology I used undermines and invalidates his critique. Additionally, Professor Wiggins’ conclusions and criticisms of the methodology I employed are based on the flawed methodology that he employs, which is inconsistent with the record in this case, including Google’s own documents and testimony, as well as economic literature.

³⁰ See, e.g., Andrien Opening Report, ¶106, footnote 282 (citing “Carolyn Carter, Consumer Protection in the States: A 50-State Evaluation of Unfair and Deceptive Trade Practices Laws, National Consumer Law Center, March 2018, at p. 30, available at https://www.nclc.org/wp-content/uploads/2022/09/UDAP_rpt.pdf, accessed 6/4/2024.) (“In almost all states, the UDAP statute allows the state to ask a court to impose a monetary penalty on a business that has engaged in an unfair or deceptive practice. A substantial civil penalty for initial violations is important because of its deterrent effect. A business that faces no potential penalty beyond returning its ill-gotten gains may be tempted to engage in unfair and deceptive practices. If it is caught, it simply ends up back where it started, but if not caught it keeps its gains. The potential of a civil penalty in addition to restitution helps balance this equation.”); see also *Id.* at ¶65, footnote 183 (citing *United States v. Phelps Dodge Indus., Inc.*, 589 F. Supp. 1340, 1362 (S.D.N.Y. 1984) (“Federal courts have identified factors to consider when assessing fines under the FTCA including the good faith or bad faith of the defendants, the injury to the public, the defendants’ ability to pay and the extent to which defendants have benefited from the violations, whether continuing violations have a detrimental effect on the public, whether defendant can eliminate the effects of the violation if it were motivated to do so, and the penalties awards must result in effective deterrence lest potential violators “regard the statutory penalty ‘as nothing more than an acceptable cost of violation.’”) See also Chopra, Rohit and Levine, Samuel A.A., The Case for Resurrecting the FTC Act’s Penalty Offense Authority, p. 100 (noting that “[p]enalties can and should exceed ill-gotten gains,” and penalties that do not exceed (or even capture) ill-gotten gains are generally too lenient, in that they are unlikely to deter others from engaging in similar misconduct . . .”)

³¹ For this reason, I noted in my Opening Report that many statutes allow for treble damages—far in excess of the actual financial benefits obtained from a company’s misconduct—“to establish deterrence of future misconduct” and remove the financial incentive to engage in misconduct. While here the Plaintiff States are not seeking actual monetary damages for DTPA violations, the general deterrent effect of making a defendant pay significantly more than they actually earned from their misconduct similarly applies. See Andrien Opening Report, footnote 283.

³² See § III.B. below.

HIGHLY CONFIDENTIAL

26. I discuss my critiques of the Wiggins Report’s methodology and conclusions in the remainder of this report.

B. The Penalties Analysis in the Wiggins Report Is Contradicted by the Economic Literature on Deterrence and Does Not Appropriately Assess the Amount Necessary to Deter Improper Conduct

27. The Wiggins Report criticizes the range of civil penalties I propose in my Opening Report, characterizing them as “wildly disproportionate” and a departure from the “framework” I utilized.³³ The Wiggins Report proposes two alternative total penalty amounts.³⁴ First, it suggests that the total penalty should be no greater than \$44.9 million, based on reducing the violation counts and penalty per violation quantified in my Opening Report.³⁵ Second, it suggests that the total penalty should be no greater than \$21.7 million, based on Professor Wiggins’ estimates of Google’s incremental profit from the alleged misconduct.³⁶ As I discuss in Section III.C. below, both these alternatives vastly understate the benefits to Google from the alleged misconduct. But first, I discuss that the Wiggins Report largely ignores that deterrence is explicitly a factor to consider in the statutes and/or case law of various Plaintiff States, fails to provide any meaningful response to my opinions regarding the amount of civil penalties necessary to deter Google (and others) from engaging in similar misconduct in the future, and further fails to establish that the amount of penalties he proposes is sufficient to deter future misconduct by Google and others. Moreover, as I discuss below, Professor Wiggins’ assertions that the amount of penalties is tied to Google’s direct benefit from the misconduct is inconsistent with economic literature.

³³ See Wiggins Report, §VII, ¶258.

³⁴ The Wiggins Report also includes a \$141.3 million penalty estimate based on only “partial” corrections. See Wiggins Report, Figure 6.

³⁵ Wiggins Report, ¶¶18, 256.

³⁶ Wiggins Report, ¶¶19, 257.

HIGHLY CONFIDENTIAL

28. As I described in my Opening Report, deterrence is not only explicitly listed as a relevant factor in determining penalties under the statutes of certain states, but also under developed case law.³⁷ It is instructive to note that where such factors are explicit, whether through codification, case law, or reference to federal statute, they consistently contemplate the deterrent effect of the penalty to prevent future violations.³⁸ The Wiggins Report does not challenge that deterrence is a relevant factor to consider in determining the amount of the penalty. Professor Wiggins also fails to establish that his proposed penalties would deter Google and others from future misconduct, which they will not.³⁹

29. Below, I discuss how economic theory, including Nobel Prize-winning research, establishes that a penalty can and should exceed the gain from the alleged misconduct, including research that suggests that when a wealthy offender is apprehended, the optimal penalty to establish deterrence should be maximal, i.e. as much as the offender can bear.

30. The economic theory of crime deterrence is a well-established discipline within the field of economics, dating back to the 18th century.⁴⁰ Although scholars like Montesquieu, Beccaria, and Bentham applied economic principles to public law enforcement in the mid-to late-1700s, Nobel laureate Gary Becker is typically credited with modernizing longstanding ideas in

³⁷ See, e.g., Andrien Opening Report, § III.E. I also understand that deterrence is a considered in assessing penalties for unfair or deceptive trade practices under the Federal Trade Commission Act (“FTCA”), which is referenced for guidance in the statutes of various Plaintiff States. See, e.g., Rohit Chopra & Samuel A. Levine The Case for Resurrecting the FTC Act’s Penalty Offense Authority, 170 U. Pa. L. Rev. 71 at pp. 99-104 (2021).

³⁸ See, e.g., Andrien Opening Report at p. 35, fn 180 (citing Missouri court stating that penalties were “appropriate in view of the magnitude and seriousness of the violations ... the lack of a bona fide error, and the need to deter”); pp. 38-39 (citing South Carolina case law listing “the deterrence value of the assessed penalties” as a factor to consider in assessing penalty amounts); p. 40 (citing Texas statute listing “the amount necessary to deter future violations” as a factor to consider in assessing penalty amounts); p. 41 (citing Utah statute listing “the need to deter the supplier or others from committing the violation in the future” as a factor to consider in assessing penalty amounts).

³⁹ See, e.g., Chopra, Rohit and Levine, Samuel A.A., The Case for Resurrecting the FTC Act’s Penalty Offense Authority, p. 99 (stating that civil penalties “are intended not only to punish the wrongdoer but also to deter others from engaging in similar misconduct”) (citations omitted).

⁴⁰ Polinsky, Mitchell and Steven Shavell, “The Theory of Public Enforcement of Law” *Handbook of Law and Economics*, Volume I (2007), p. 405; Raskolnikov, Alex, Deterrence Theory: Key Findings and Challenges, p. 179.

HIGHLY CONFIDENTIAL

this area by framing them in “formal economic terms.”⁴¹ In 1968, Dr. Becker published a seminal paper on the subject, *Crime and Punishment: An Economic Approach*, which was later instrumental in winning him the Nobel Prize in Economics.⁴² Dr. Becker’s work applied free-market principles to the question of why people commit crimes, arguing that the way to reduce crime was to make the costs outweigh the benefits.⁴³ Since Dr. Becker’s seminal paper, a significant body of scholarship on the economics of deterrence has developed.⁴⁴ My review of this body of literature establishes that limiting the amount of the penalty to Google’s incremental profit from the alleged misconduct is wrong and inconsistent with standard economic theory. I also have reviewed Dr. DeRamus’ Reply Report and there is nothing in his report that conflicts with my analysis of the deterrence issue.⁴⁵ Moreover, it is my opinion that not only would such a limited penalty be insufficient to provide the macro-level deterrent effect that governments seek to establish, but that it would also be insufficient to provide even a micro-level deterrent effect on an apprehended offender—in this case, Google.

31. In the context of “public enforcement of the law... deterrence refers to preventing socially harmful conduct.”⁴⁶ Scholarship on this subject seeks to optimize how the government can achieve the objective of maximizing social welfare, which is typically defined as “the benefits that individuals obtain from their behavior, less the costs that they incur to avoid causing harm, the harm that they do cause, the cost of catching violators, and the costs of imposing sanctions on

⁴¹ See Polinsky, Mitchell and Steven Shavell, “The Theory of Public Enforcement of Law” *Handbook of Law and Economics*, Volume I (2007), p. 407; Raskolnikov, Alex, Deterrence Theory: Key Findings and Challenges, p. 180.

⁴² <https://www.nobelprize.org/prizes/economic-sciences/1992/press-release/>.

⁴³ <https://www.chicagobooth.edu/faculty/nobel-laureates/gary-becker>.

⁴⁴ Raskolnikov, Alex, Deterrence Theory: Key Findings and Challenges; Polinsky, Mitchell and Steven Shavell, “The Theory of Public Enforcement of Law” *Handbook of Law and Economics*, Volume I (2007).

⁴⁵ Report of Dr. David DeRamus, September 9, 2024 (“DeRamus Report”).

⁴⁶ Raskolnikov, Alex, Deterrence Theory: Key Findings and Challenges, p. 179.

HIGHLY CONFIDENTIAL

them (including any costs associated with risk aversion).⁴⁷ In general, this framework can provide the bases for deterring not just the apprehended offender from committing future offenses, but also all other potential offenders.⁴⁸

32. The government’s decision variables to achieve optimal outcomes include: (i) its expenditures on enforcement, which help determine the probability of detection (“p”); (ii) the magnitude of the sanctions (“f”); and (iii) the form of the sanctions (fines, imprisonment, etc.).⁴⁹ I address each of these factors below.

33. In terms of determining the form of the sanction, the economic literature recognizes that fines offer several advantages over other forms of sanctions and encourages the use of fines “*whenever feasible*.”⁵⁰ Specifically, fines are relatively cheaper to impose than other types of sanctions, punish offenders and compensate society, and simplify optimizing the combination of the probability of detection and the magnitude of the sanction.⁵¹

34. Next, the probability of detection “is a compound probability that the offense is detected, that the enforcement agents decide to litigate/prosecute the case (rather than to ignore it in order to focus on other, more severe violations), and that the parties do not resolve the

⁴⁷ See Polinsky, Mitchell and Steven Shavell, “The Theory of Public Enforcement of Law” *Handbook of Law and Economics*, Volume I (2007), p. 406. I note that there is a dispute amongst economists about whether social welfare should include the gains of the offender. While Becker, Polinsky and Shavell include the offenders gains in their framework, others—including Nobel Laureate George Stigler—have argued against this notion. This dispute is not settled. See, e.g. Raskolnikov, Alex, Deterrence Theory: Key Findings and Challenges, pp. 180-181. For the purposes of this discussion, I assume that an offender’s gains are included in social welfare. However, excluding an offender’s gains from consideration makes higher sanctions, as well as a higher probability of detection more desirable. See, Polinsky, Mitchell and Steven Shavell, “The Theory of Public Enforcement of Law” *Handbook of Law and Economics*, Volume I (2007), p. 408.

⁴⁸ Chopra, Rohit and Levine, Samuel A.A., The Case for Resurrecting the FTC Act’s Penalty Offense Authority, p. 99.

⁴⁹ See Becker, Gary, “Crime and Punishment: An Economic Approach” *Journal of Political Economy* (1968), p. 43; See Polinsky, Mitchell and Steven Shavell, “The Theory of Public Enforcement of Law” *Handbook of Law and Economics*, Volume I (2007), p. 407.

⁵⁰ See Becker, Gary, “Crime and Punishment: An Economic Approach” *Journal of Political Economy* (1968), p. 28.

⁵¹ Becker, Gary, “Crime and Punishment: An Economic Approach” *Journal of Political Economy* (1968), pp. 43-44.

HIGHLY CONFIDENTIAL

controversy through settlement which may or may not include a payment.”⁵² Additionally, “[p]ublic enforcement is often characterized by low probabilities of detection,”⁵³ and “Moreover, the likelihood that an offender will be discovered and convicted and the nature and extent of punishments differ greatly from person to person and activity to activity.”⁵⁴ I note that Google’s failure to preserve and produce relevant information subject to litigation holds, which is at issue in this litigation and several other litigations, further reduces the probability of detection and increases the costs of enforcement absent sufficient remedial action by the Court.⁵⁵

35. It is well understood in the economic literature that: (i) the optimal penalty from a macro (or social welfare perspective) depends on the external harm caused by the misconduct, not the offender’s expected gain⁵⁶ and (ii) the combination of the probability of detection and the

⁵² See Raskolnikov, Alex, “Deterrence Theory: Key Findings and Challenges,” p. 182 and footnote 3.

⁵³ See Polinsky, Mitchell and Steven Shavell, “The Theory of Public Enforcement of Law” *Handbook of Law and Economics*, Volume I (2007), p. 421; Chopra, Rohit and Levine, Samuel A.A., *The Case for Resurrecting the FTC Act’s Penalty Offense Authority*, p. 99.

⁵⁴ See Becker, Gary, “Crime and Punishment: An Economic Approach” *Journal of Political Economy* (1968), pp. 1-2.

⁵⁵ I understand that in this lawsuit, after the Plaintiff States moved to compel written discovery regarding Google’s destruction of Google Chats, the Special Master concluded that [REDACTED]

[REDACTED] See Order of Special Master, July 15, 2024, at p. 11. In addition, at least two federal judges have found that Google has engaged in improper conduct related to the preservation and production of relevant information subject to litigation holds. In the Google Play Store Antitrust Litigation, Judge Donato determined that it was “clear in the record that relevant, substantive business communications were made on Chat that plaintiffs will never see, to the potential detriment of their case.” See, United States District Court Northern District of California, *In Re: Google Play Store Antitrust Litigation*, Findings of Fact and Conclusions of Law Re Chat Preservation, Case No. 21-md-02981-JD, March 28, 2023, p. 18. In a hearing on the issue, Judge Donato stated “I have just never seen anything this egregious... this conduct is a frontal assault on the fair administration of justice. It undercuts due process, and it calls into question the just resolution of legal disputes. It’s antithetical to our system.” See, Case 3:20-cv-05671-JD Document 591, December 6, 2023, pp. 163-164.

Similarly, in the DOJ’s search antitrust case against Google, Judge Mehta stated that “the court is taken aback by the lengths to which Google goes to avoid creating a paper trail for regulators and litigants. It is no wonder then that this case has lacked the kind of nakedly anticompetitive communications seen in Microsoft and other Section 2 cases... Google clearly took to heart the lessons from these cases. It trained its employees, rather effectively, not to create ‘bad’ evidence.” See, United States District Court for the District of Columbia, *United States v. Google LLC*, Case No. 20-cv-3010 (APM), Memorandum Opinion, August 5, 2024, p. 275.

⁵⁶ See Polinsky, Mitchell and Steven Shavell, “The Theory of Public Enforcement of Law” *Handbook of Law and Economics*, Volume I (2007), pp. 408, 413-414; Raskolnikov, Alex, “Deterrence Theory: Key Findings and Challenges,” p. 182; see also Chopra, Rohit and Levine, Samuel A.A., *The Case for Resurrecting the FTC Act’s Penalty Offense Authority*, p. 99 (noting that merely awarding an amount directly lost by victims or earned by wrongdoers as relief “can underdeter serious wrongdoing, especially when the consequences of that wrongdoing are difficult to calculate, or far exceed direct losses or gains.”).

HIGHLY CONFIDENTIAL

magnitude of the sanction is “one of the key payoffs of optimal deterrence theory.”⁵⁷ Focusing solely on the harm to society, rather than the expected benefits to the offender, leads to a penalty that incentivizes the offender to commit only wrongful acts in which their expected gain exceeds social harm.⁵⁸ Ultimately, to deter future misconduct, appropriate fines must be larger than the harm, because the probability of detection is less than one.⁵⁹ Specifically, “[t]he standard response to the problem of imperfect detection is to increase the nominal (that is, statutory) sanction by the so-called multiplier, making sure that the expected sanction equals the act’s external harm.”⁶⁰

36. However, economists also recognize that increasing the probability of detection requires incurring more costs to catch offenders (thus, it negatively affects social welfare).⁶¹ Moreover, the more money is spent on detection efforts, the less benefit each additional dollar of expenditure will produce. Thus, beyond a certain level of spending, increasing fines rather than enforcement spending becomes a more socially efficient deterrence strategy because achieving the same level of deterrence would require a smaller adjustment in the fine and a larger adjustment in enforcement spending to increase the probability of detection.⁶² Polinsky and Shavell go so far as to state that, under certain conditions, “**the optimal fine is maximal**” and cannot be less than the wealth of the offender.⁶³ But the concept of tying the fine to the wealth of the offender is not a new

⁵⁷ See Raskolnikov, Alex, “Deterrence Theory: Key Findings and Challenges,” p. 182.

⁵⁸ See Polinsky, Mitchell and Steven Shavell, “The Theory of Public Enforcement of Law” *Handbook of Law and Economics*, Volume I (2007), pp. 408, 413; Raskolnikov, Alex, “Deterrence Theory: Key Findings and Challenges,” pp. 180, 182.

⁵⁹ See Raskolnikov, Alex, “Deterrence Theory: Key Findings and Challenges,” p. 182.

⁶⁰ Raskolnikov, Alex, “Deterrence Theory: Key Findings and Challenges,” p. 182; See Polinsky, Mitchell and Steven Shavell, “The Theory of Public Enforcement of Law” *Handbook of Law and Economics*, Volume I (2007), pp. 408, 413.

⁶¹ Becker, Gary S. “Crime and Punishment: An Economic Approach.” *Journal of Political Economy* 76, no. 2 (1968): pp. 174, 180-181.

⁶² Becker, Gary S. “Crime and Punishment: An Economic Approach.” *Journal of Political Economy* 76, no. 2 (1968): pp. 177-178, 183-185.

⁶³ I note that Polinsky and Shavell point out that “[o]ptimal sanctions might not be maximal, however, when individuals are risk averse in wealth or risk preferring in imprisonment...” See Polinsky, Mitchell and Steven Shavell, “The Theory of Public Enforcement of Law” *Handbook of Law and Economics*, Volume I (2007), pp. 413-414, 420.

HIGHLY CONFIDENTIAL

idea. As early as 1780s, Jeremy Bentham wrote that “[a] pecuniary punishment, if the sum is fixed, is in the highest degree unequal...Fines have been determined without regard to the profit of the offense, to its evil, or to the wealth of the offender...Pecuniary punishments should always be regulated by the fortune of the offender. The relative amount of the fine should be fixed, not its absolute amount; for such an offense, such a part of the offender’s fortune.”⁶⁴

37. I understand however, that in certain circumstances, society may choose to deter certain behaviors without explicitly considering, or regardless of the impact on, net social welfare. For example, I understand that the statutes under which the Plaintiffs States brought this lawsuit call for penalties that deter the types of conduct that Google has committed in this case. In such cases, if the offender’s gain exceeds the external harm, a penalty based on the external harm will be insufficient to deter future misconduct. This is because the expected value of the benefit in such cases will always exceed the expected penalty. Therefore, to determine the appropriate penalties to levy against Google in this case, it can also be informative to consider the gain achieved by Google because of its misconduct. The standard multiplier approach described above is still applicable, except that the penalty should be set such that the expected penalty equals the offender’s benefit rather than the external harm. The penalty set in this manner will also be larger than the benefit to the offender, given that the probability of detection, once again, is less than one. Therefore, limiting the fine in this case to the benefit Google has derived from the misconduct, as Professor Wiggins suggests, is economically insufficient to deter Google from such conduct, let alone other potential offenders. Moreover, one would have to be able to, with reasonable precision, determine the benefit to Google, which Professor Wiggins has not done, and Google testimony

⁶⁴ The quote is from Richard Hildreth’s 1864 english translation of Étienne Dumont’s *Traité de législation civil et pénale* (1802), titled *Theory of Legislation; by Jeremy Bentham*, London: Trübner & Co (1864), p. 353.

HIGHLY CONFIDENTIAL

suggests is not possible.⁶⁵ I address the challenges to calculating Google’s benefits in my Opening Report, and below.⁶⁶

38. The Wiggins Report and Skinner Report appear to have ignored the economic literature on deterrence, which not only supports the approach I have taken, but also suggests my conclusions are conservative. This literature is also consistent with the three factors I analyzed in determining statutory penalties and the analysis presented in my Opening Report. More specifically, I have analyzed Google’s wealth. I analyzed Google’s worldwide revenues and profits, its U.S. revenues and profits, its revenues and profits allocable to the 17 Plaintiff States, and its revenues and profits allocable to various business segments. I have analyzed Google’s history of fines and settlements for similar conduct, which appear to have been insufficient to deter other misconduct. I have analyzed Google’s ability to pay a fine at the high end of my proposed range. Even the highest penalty I propose is far less than the maximal amount that Google can pay. Specifically, a \$21.81 billion total penalty is merely 1.2 percent of Google’s net worth as measured by its market capitalization (\$1.86 trillion as of September 6, 2024),⁶⁷ 5.6 percent of Google’s net income between 2013 through 2023 (\$390.51 billion),⁶⁸ 21.7 percent of cash and short-term investments (\$100.73 billion as of June 30, 2024).⁶⁹ Similarly, Google documents indicate that even a contract like the Network Bidding Agreement (“NBA”), which internally Google employees considered to be a “multibillion-dollar deal with long-term impact to Google and the broader ads ecosystem”⁷⁰ that addressed the “existential threat posed by Header Bidding and FAN

⁶⁵ See § III.C.

⁶⁶ See § III.C; Andrien Opening Report, § IV.F.

⁶⁷ Andrien Opening Report, ¶84.

⁶⁸ Andrien Opening Report, ¶80.

⁶⁹ Andrien Opening Report, ¶81; S&P Capital IQ; Alphabet Inc. SEC Form 10-Q for the quarterly period ended June 30, 2024.

⁷⁰ GOOG-AT-DOJ-01901774 at -777.

HIGHLY CONFIDENTIAL

['Facebook Audience Network'].⁷¹ [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

39. Even though my analysis is supported by the economic literature and specified within the factors to consider in relevant state statutes, Professor Wiggins and Professor Skinner ignore these factors.⁷⁵ They provide no basis or explanation of why they ignored these factors, nor for why these factors should be ignored.

40. To reiterate, I have determined reasonable and conservative deceptive trade practices civil penalties based on the subset of factors I considered. My proposed penalty ranges are based upon the violation counts articulated in my initial report.⁷⁶ [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] it is my opinion that such a decrease in violation counts would not result in a linear reduction in the total penalty amount and, at the very least, would result in an appropriate civil penalty being at the lower end of a proffered range (e.g. \$7.27 billion for Bernanke).⁷⁸ Google has engaged in serious misconduct over a period of years, deriving significant short- and long-

⁷¹ GOOG-NE-05311570 at -570.

[REDACTED]

⁷⁵ Skinner Report, §IX; Wiggins Report, §VIII.B.

⁷⁶ See Andrien Opening Report, Table 4.

⁷⁷ See § III.E.

⁷⁸ The same applies to Google's RPO, DRS, and Equal Footing conducts – a decrease in violation counts would not result in a linear reduction in the total penalty amount related to those misconducts and, at the very least, should result in an appropriate civil penalty at the lower end of my proffered range.

HIGHLY CONFIDENTIAL

term benefits from their actions, which are not fully reflected in an analysis of direct incremental benefits. Given the body of academic literature I have reviewed, the likely incomplete production of all relevant evidence by Google, and the complexity of the underlying auction mechanics, it is logical that the probability of detection is low in this instance.⁷⁹ In the parlance of the economic theory of deterrence, if the probability of detection is relatively low, the optimal fine for deterrence should be high.

C. The Wiggins Report Contains an Incorrect Assessment of Google’s Benefit from Its Misconduct

a. The Wiggins Report’s Incremental Profit Analysis is Flawed and Unreliable

41. The Wiggins Report undertakes a purported “direct assessment” of Google’s incremental benefits from the alleged deception of each program. As I discussed above, while this may be a consideration for determining an appropriate penalty under a holistic approach, Professor Wiggins’ analysis is nevertheless flawed and unreliable.

42. The Wiggins Report states that in undertaking his purported “direct assessment,” he “emphasize[s] that benefits from the alleged deception are conceptually different from benefits from the programs in question.”⁸⁰ The Wiggins Report performs an assessment in two ways: first by conceptually addressing “the extent to which Google profited from the alleged deception about each program,” and second by performing “an empirical analysis that assumes that advertisers and publishers do not learn and adapt their strategies in response to the feedback they receive in the marketplace.”⁸¹

⁷⁹ See also DeRamus Report, § VI.B.

⁸⁰ Wiggins Report, ¶184.

⁸¹ Wiggins Report, ¶185.

HIGHLY CONFIDENTIAL

43. The Wiggins Report’s “empirical” analysis results in estimated incremental revenue and profits calculations for Bernanke, DRS v1, DRS v2 and RPO.⁸² However, the calculations suffer from three primary deficiencies: 1) Google itself represented that such calculations may not be possible to perform, 2) the calculations contradict information Google employees provided about the direct incremental benefits of each program, and 3) the calculations do not account for the significant indirect benefits derived by Google from violating DTPA statutes.

- i. Google represented that an evaluation of incremental benefits may not be feasible to perform.*

44. The Wiggins Report fails to acknowledge that the precision of any analyses (including its own) of the direct, indirect, and incremental benefits of Google’s alleged misconducts, as well as the profits and revenues associated therewith, necessarily depends on complete and accurate data and other information, which here, Google did not produce and admits it does not maintain. Notably, it appears that the Wiggins Report does not refer to, rely upon, or even acknowledge the existence of the Declaration of [REDACTED] – a Google software engineer and member of Google’s Ad Manager Reporting and Insights Team since 2013,⁸³ who is “responsible for building pipelines to digest historical data and produce analytics and insights,” and “familiar with the tools available at Google to access, search, and store data in Google’s ad logs”⁸⁴ – which Google submitted in support of its Amended Responses to Plaintiffs’ Third Set of Interrogatories.⁸⁵ Indeed, [REDACTED] declared under oath that Google did not maintain datasets responsive to certain of Plaintiff States’ requests for financial and other data related to Google’s

⁸² Wiggins Report, Appendix D.

⁸³ [REDACTED] Declaration, ¶1.

⁸⁴ [REDACTED] Declaration, ¶1.

⁸⁵ Defendant Google LLC’s Responses to Plaintiffs’ Third Set of Interrogatories, May 24, 2024.

HIGHLY CONFIDENTIAL

deceptive programs (including but not limited to RPO, DRS, and Bernanke) and necessary for such a calculation.⁸⁶

45. It is my understanding that the Plaintiff States have issued requests for information related to the number of impressions affected by certain Google programs at issue in this litigation (including RPO, DRS, and Bernanke), Google revenue and profits attributable to these programs, and any additional value gained by Google related to these programs.

46. Specifically, I understand that on April 1, 2024, the Plaintiff States requested discovery data and information on a monthly basis dating back to January 1, 2013, for each of “Google’s Auction Mechanics” (defined to include RPO, DRS, and Project Bernanke among others).⁸⁷ For each such program, the Plaintiff States requested “the number of impressions where such Google Auction Mechanic had any effect on bids, floor prices, or revenue shares, and the percentage of such impressions as a share of overall impressions, which otherwise would not have been affected had the Google Auction Mechanic not been operational,”⁸⁸ “the number and percentage of AdX auctions on which the Google Auction Mechanic had an effect on bids, floor prices, revenue shares, or margins, which otherwise would not have been affected had the Google Auction Mechanic not been operational,”⁸⁹ “Google’s revenues and profits attributable to such Google Auction Mechanic,”⁹⁰ and “any additional value gained by [Google], including in the form of improved position or share in any and all Ad Tech Product markets.”⁹¹

⁸⁶ [REDACTED] Declaration, ¶¶5, 6, 9.

⁸⁷ See Plaintiff State of Texas’s Third Set of Interrogatories, April 1, 2024; see also [REDACTED] Declaration.

⁸⁸ See Plaintiff State of Texas’s Third Set of Interrogatories, April 1, 2024 at Interrogatory 7; see also [REDACTED] Declaration, ¶3.

⁸⁹ See Plaintiff State of Texas’s Third Set of Interrogatories, April 1, 2024 at Interrogatory 8; see also [REDACTED] Declaration, ¶3.

⁹⁰ See Plaintiff State of Texas’s Third Set of Interrogatories, April 1, 2024 at Interrogatory 10; see also [REDACTED] Declaration, ¶3.

⁹¹ See Plaintiff State of Texas’s Third Set of Interrogatories, April 1, 2024 at Interrogatory 11; see also [REDACTED] Declaration, ¶3.

HIGHLY CONFIDENTIAL

47. In addition, also on April 1, 2024, the Plaintiff States requested data associated with Project Bernanke, on a monthly basis dating back to the inception of Project Bernanke, including the number of auctions (as a count and a percentage of overall auctions) where the operation of Bernanke resulted in a winning bid and the average and median monetary amount such bids were adjusted by the operation of Bernanke; the number of auctions (as a count and a percentage of overall auctions) in which Bernanke raised or lowered the second-highest bid submitted to the AdX auction, the number of bids (as a count and a percentage of overall auctions) in which the second-highest bid was lowered to zero or the minimal increment above zero, and the average monetary amount such bids were adjusted by the operation of Bernanke; the number of queries won due to Bernanke in which the winning bid was raised above a competing bid in the AdX auction and the number of queries won due to Bernanke in which the highest bid raise raised above only the publisher's floor price, and the average monetary amounts the winning bids were above the floor price or the next-highest bid; the average and median values for Bernanke alpha and beta; the number of auctions (as a count and a percentage of overall auctions) where the operation of Bernanke resulted in money being contributed to one or more Bernanke pools and the average amount of such contribution; the number and identity of publishers for whom the operation of Bernanke had a negative impact on revenue, and the amount of such negative impact; the number and identity of publishers that were excluded from the Bernanke program and the reasons for their exclusion; the identity of any publishers for whom Google monitored margins for the purpose of ensuring that Bernanke did not have a negative impact on these publishers' revenue; any efforts, programs, initiatives, or monitoring Google engaged in or otherwise performed to determine the impact of Bernanke on floor prices set by publisher.⁹²

⁹² See Plaintiff State of Texas's Third Set of Interrogatories, April 1, 2024 at Interrogatory 12. See also [REDACTED] Declaration, ¶4.

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48. I understand that on May 1, 2024, Google initially objected to these requests and responded that it could not “reasonably respond” to them “at this time,” but that it was willing to meet-and-confer on the requests.⁹³ I further understand that on May 24, 2024, Google provided Amended Responses and Objections to the aforementioned requests, in which it responded to each request, in part, that [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] 94,95

49. I further understand that on the same day, Google tendered the sworn declaration of [REDACTED] in support of Google’s amended responses to the Plaintiff States’ requests for financial and other data related to Google’s deceptive programs (including but not limited to RPO, DRS, and Bernanke),⁹⁶ in which [REDACTED] declared that he is “[REDACTED]

[REDACTED]

⁹³ See Google’s Responses to State of Texas’s Third Set of Interrogatories, May 1, 2024 at Interrogatories 7-8, 10-12.

⁹⁴ Google’s First Amended Responses to State of Texas’s Third Set of Interrogatories, May 24, 2024 at Interrogatories 7-8, 10-12 (emphasis added).

⁹⁵ For example, in Interrogatory 10, the Plaintiff States requested that Google identify its revenues and profits attributable to each Google Auction Mechanic (e.g., DRS, Bernanke, and RPO) from January 2013 to present. Google responded to this request noting the significant challenges of performing such an evaluation, stating [REDACTED]

[REDACTED]

⁹⁶ See generally [REDACTED]

HIGHLY CONFIDENTIAL

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] 98,99

50. I understand that this information has not, to date, been produced by Google. Moreover, Google itself has represented that an evaluation of incremental benefits might not even be possible, a fact the Wiggins Report seemingly disregards.

51. In addition, Google personnel have testified at deposition as to the challenges inherent in such an exercise. For example, Nirmal Jayaram, a Google Software Engineer who served as a 30(b)(6) witness, testified about the inherent difficulty of evaluating the incremental benefits of a given program.¹⁰⁰

[REDACTED]

[REDACTED]

[REDACTED]

⁹⁷ [REDACTED] Declaration, ¶5.

⁹⁸ [REDACTED] Declaration, ¶9 (emphasis added).

⁹⁹ Specifically, [REDACTED] declared that [REDACTED]

¹⁰⁰ See [REDACTED] Declaration, ¶6.

¹⁰⁰ See Deposition of Nirmal Jayaram, April 26, 2024 (“Jayaram Deposition”) at 139:12-140:6 (emphasis added).

HIGHLY CONFIDENTIAL

[REDACTED]

52. Mr. Jayaram further testified that [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

54. To the extent the Professor Wiggins is aware of Google's representations about the difficulty inherent in identifying its revenues and profits attributable to each Google Auction Mechanic (i.e., [REDACTED])

[REDACTED] he is silent about it in his report. If Professor Wiggins is aware of the testimony or declarations of Google personnel such as Mr. Jayaram and [REDACTED] as to the

¹⁰¹ See Jayaram Deposition at 142:14-25 (emphasis added).

¹⁰² See Jayaram Deposition at 265:4-12 (emphasis added).

HIGHLY CONFIDENTIAL

difficulty of this task, he is similarly silent about it in his report. In other words, while Google admits that an evaluation of incremental benefits might not even be possible, and that it does not maintain the data necessary to precisely determine the number of auctions directly affected by, the revenues and profits associated with, or the additional value it gained through its auction manipulation programs, the Wiggins Report appears to completely disregard these facts. To that end, Professor Wiggins' failure to reconcile his purported "direct assessment of Google's benefits" to the representations and testimony of Google and its personnel renders his analysis speculative and unreliable.

ii. *The Wiggins Report's Calculations Contradict Information Regarding the Incremental Benefits of the Programs Provided by Google's Own Personnel*

55. Below, I provide examples of how the Wiggins Report's estimates of incremental profit related to Google's misconduct contradict information on the incremental benefits of this conduct as provided by Google's own personnel. As I explained in my Opening Report, I find that Google's internal estimates are unreliable and insufficient to support an analysis of the direct benefit of the misconduct to Google;¹⁰³ however, the fact that the Wiggins Report's proffered results are lower than some of these incomplete estimates and that he has not done any analysis to account for these variances show that his calculations are unreliable.

56. Regarding Bernanke, [REDACTED]

[REDACTED]

¹⁰³ Andrien Opening Report, footnote 285 ("There are documents in the record that provide estimates of the direct monetary impact related to Google's misconduct. When asked to provide 'Google's revenue and profits attributable to such Google Auction Mechanic' Google has stated that they 'would need to attempt to create this data through a manual process.' See [REDACTED] in Support of Defendant Google LLC's Responses to Plaintiffs' Third Set of Interrogatories, May 24, 2024. Google has not undertaken this process. Thus, I find these limited documents unreliable and insufficient to support an analysis of the direct benefit of the misconduct to Google. Further, as I describe herein, Google's benefit from the misconduct is not limited to the direct monetary benefit of each misconduct.")

HIGHLY CONFIDENTIAL

[REDACTED]

[REDACTED] In contrast to the Wiggins Report's calculation, Google prepared an internal presentation nearly two years after the launch of Project Bernanke in August 2015 [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

57. [REDACTED]

[REDACTED] 1. Professor Wiggins' failure to reconcile his estimated incremental benefits with Google's own internal estimate renders his calculations speculative and unreliable.

58. [REDACTED]

[REDACTED]

[REDACTED] This calculation, once again, contradicts estimates from Google personnel, in this case, Nitish Korula, a Senior Technical Adviser and Google employee for approximately 14 years, who from July 2016 through December 2021, was a lead for "engineering teams developing Google products that allow publishers to sell

104 [REDACTED]

106 [REDACTED]

¹⁰⁷ Wiggins Report, ¶¶304-318.

HIGHLY CONFIDENTIAL

display advertising inventory, including Google Ad Manager.”¹⁰⁸ During the deposition of Mr. Korula, he estimated that [REDACTED]

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

59. [REDACTED]
[REDACTED]
[REDACTED]

[REDACTED]. As with the Bernanke example, Professor Wiggins is again silent as to Google’s own documents and testimony, which he did not consider. Accordingly, Professor Wiggins’ failure to reconcile his estimated incremental benefits with Google’s own internal estimates render his calculations speculative and unreliable.

iii. The Wiggins Report’s Calculations Do Not Account for the Significant Indirect Benefits Derived by Google from Violating DTPA Statutes

60. As discussed in the next section, Google accrued numerous indirect benefits from violating the DTPA statutes, none of which are accounted for in the Wiggins Report’s incremental profit calculations. For example, Google’s misconduct provides funds which could be used for additional employees, improvements in technology, or to improve the company’s relative position in the industry.¹¹¹ Google’s misconduct also results in indirect network effects that serve as barriers to entry against competitors and create difficulties for competitors trying to compete with Google’s

¹⁰⁸ See GOOG-AT-MDL-008842393; Declaration of Nitish Korula, August 4, 2023, ¶1.

¹⁰⁹ Deposition of Nitish Korula, July 12, 2024 at 190:2-23.

[REDACTED]
[REDACTED]
[REDACTED] of each Plaintiff State’s internet population to that of the United States as a whole from 2013-2023.

¹¹¹ See § III.C.b.

HIGHLY CONFIDENTIAL

dominant display advertising position.¹¹² Further, increased AdX win rates and revenue from the deceptive misconduct results in attracting more publishers and advertisers to Google's platform, furthering Google's dominance.¹¹³ Finally, as Google grows and dominates the display advertising market by way of the alleged misconduct, Google aims to use the data gathered along the way to enhance and grow its other offerings, such as with the "Narnia 2.0" program.¹¹⁴ Professor Wiggins does not consider any of these indirect benefits in his incremental profits calculation. Because he does not identify and isolate the impacts of the misconducts in all the other areas of Google's business, his incremental profit calculations are speculative and unreliable.

b. The Wiggins Report Disregards the Significant Indirect Benefits Derived by Google from Violating DTPA Statutes

61. The Wiggins Report claims that "There are no indirect benefits that would justify higher DTPA penalties."¹¹⁵ However, this response fails for myriad reasons.

62. First, the Wiggins Report suggests that "indirect network effects" that serve as barriers to entry against competitors are irrelevant as they do "not relate to the alleged deception."¹¹⁶ Interestingly, Professor Wiggins does not dispute the underlying notion that these indirect network effects would indeed serve as barriers to entry against competitors. Professor Wiggins misses the fact that, due to indirect network effects, increased AdX win rates and revenue from the deceptive DTPA misconducts results in attracting more publishers and advertisers to Google's platform, furthering Google's dominance. The Plaintiff States' allegations in this case include antitrust claims in addition to the DTPA claims. While separate and distinct, these allegations relate in some ways to similar conduct (for example, Project Bernanke) and in the sense

¹¹² See § III.C.b.

¹¹³ See § III.C.b.

¹¹⁴ See § III.C.b.

¹¹⁵ Wiggins Report, p. 122.

¹¹⁶ Wiggins Report, ¶264.

HIGHLY CONFIDENTIAL

that each type of misconduct has the ability to enhance the other. Google references this phenomenon in its internal documents. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]¹¹⁷

63. Additionally, as Google grows and dominates the display advertising market by way of the alleged DTPA misconducts, [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

64. The Wiggins Report also disregards that my opinions with respect to AdX win rates and revenue, as well as indirect network effects, are informed by the opinions of Dr. Weinberg and Dr. Gans. To wit, Dr. Weinberg opines that the benefit to Google from RPO, DRS and Project Bernanke included increased AdX win rates and revenue, as well as decreased win rates and revenues for non-AdX exchanges.¹²⁰ Dr. Gans states, “a positive feedback loop can lead to market

¹¹⁷ GOOG-TEX-00124296 at -503.

¹¹⁸ GOOG-TEX-00124296 at -319.

¹¹⁹ GOOG-TEX-00124296 at -319.

¹²⁰ Expert Report of Matthew Weinberg, June 7, 2024 (“Weinberg Report”), § 7.E.; § 8.F, § 9.C. I note that Dr. Weinberg observes that the effect of RPO on the AdX win rate may be ambiguous as it depends on the effectiveness of the program because RPO has certain offsetting factors on auction win rates. However, according to Dr. Weinberg, it is reasonable to expect Google, a sophisticated seller with access to significant amounts of data, to be achieve this. Google documents indicate Dr. Weinberg’s intuition is correct. Not only did Google expect to RPO to

HIGHLY CONFIDENTIAL

dominance.”¹²¹ Dr. Gans continues, saying that “In the presence of strong network effects, a firm that controls a widely adopted product or platform may be able to maintain its market position even in the face of competition, as users may be reluctant to switch to a rival product with a smaller user base.”¹²² Finally, Dr. Gans states “This can create barriers to entry for new competitors and allow the incumbent firm to exercise market power by raising prices, reducing quality, or limiting innovation.”¹²³

65. Second, the Wiggins Report disregards the substantial indirect benefits which accrued to Google over the relevant timeframe. While I do reference in my report certain historical acquisitions by Google (e.g., DoubleClick for \$3.1 billion in 2008, Invite Media for \$81 million in 2010, and Admeld for \$400 million in 2011)¹²⁴ which occurred prior to the deceptive acts at issue in this case, these acquisitions are properly viewed within the context of an overall scheme by Google to dominate and maintain its place in the display advertising industry.

66. For example, Google’s DoubleClick acquisition included the publisher ad server DoubleClick for Publishers (“DFP”) and a nascent ad exchange (which became AdX)¹²⁵ – in 2018

increase its revenues and profits, but it was, in fact, successful in deploying RPO effectively. [REDACTED]

¹²¹ Expert Report of Dr. Joshua Gans, June 7, 2024 (“Gans Report”), ¶304. [REDACTED]

¹²² Gans Report, ¶304.

¹²³ Gans Report, ¶304. For reference, further discussion of how Google’s misconduct enhanced its monopoly power in one or more markets can be found in the Gans Report, ¶859.

¹²⁴ How Three Mergers Buttressed Google’s Ad Tech Monopoly, Per DOJ, Tech Policy Press (March 9, 2023), <https://www.techpolicy.press/how-three-mergers-buttressed-googles-ad-tech-monopoly-per-doj/>.

¹²⁵ “Google Buys DoubleClick for \$3.1 Billion,” The New York Times, April 14, 2007, available at <https://www.nytimes.com/2007/04/14/technology/14DoubleClick.html>, accessed 8/21/2024.

HIGHLY CONFIDENTIAL

the two products merged under the Google Ad Manager (“GAM”) umbrella.¹²⁶ I understand that Dr. Gans concludes that Google has monopoly power in both the market for publisher ad servers through DFP and in the market for ad exchanges through AdX,¹²⁷ and that Google has anticompetitively tied those two products together.¹²⁸ Through the acquisition, Google also acquired DoubleClick’s Bid Manager product, which in 2018 became part of DV360, Google’s ad buying tool for large advertisers.¹²⁹ At the time of the DoubleClick acquisition, Google stated that “the combination of the two companies will accelerate the adoption of Google’s innovative advances in display advertising.”¹³⁰ In hindsight, the acquisition turned out to be a key piece of Google’s overall success. [REDACTED], a former Google executive involved in the DoubleClick acquisition, stated that the deal was “a total game changer, a crucial piece in the larger jigsaw puzzle Google put together.”¹³¹ Brian O’Kelley, founder of AppNexus, stated, “had DoubleClick not gone to Google,” he said, “it’s not clear that Google would have been the power it became — certainly not as easily.”¹³² William E. Kovacic, former FTC Commissioner, stated “If I knew in 2007 what I know now, I would have voted to challenge the DoubleClick acquisition.”¹³³

67. Additionally, as stated in my Opening Report, Google’s DTPA misconducts provided funds which could be used for additional employees, improvements in technology, or to

¹²⁶ “Introducing Google Ad Manager,” Google Blog, June 27, 2018, available at <https://blog.google/products/admanager/introducing-google-ad-manager/>, accessed 8/21/2024.

¹²⁷ Gans Report, § V.C § V.D, and § VI.

¹²⁸ Gans Report, § VI.

¹²⁹ “Introducing Google Marketing Platform,” Google Blog, June 27, 2018, available at <https://blog.google/products/marketingplatform/360/introducing-google-marketing-platform/>, accessed 8/21/2024.

¹³⁰ “Google to Acquire DoubleClick,” Google Press Release, April 13, 2007.

¹³¹ “This Deal Helped Turn Google Into an Ad Powerhouse. Is That a Problem?” *The New York Times*, September 21, 2020.

¹³² “This Deal Helped Turn Google Into an Ad Powerhouse. Is That a Problem?” *The New York Times*, September 21, 2020.

¹³³ “This Deal Helped Turn Google Into an Ad Powerhouse. Is That a Problem?” *The New York Times*, September 21, 2020.

HIGHLY CONFIDENTIAL

improve the company's relative position in the industry, including by funding acquisitions.¹³⁴ Professor Wiggins suggests that Google's "modest incremental profits" "likely did not enhance Google's ability to invest in employees and technology."¹³⁵ However, Professor Wiggins' contention that Google derived only "modest incremental profits" from its misconduct is based on his own flawed analysis of direct profits discussed elsewhere in this report. Moreover, as stated in the report of Professor Wiggins' fellow defendant expert Douglas Skinner, "Based on recent public disclosures, including its second quarter 2024 earnings results and call with investors, the Company has made and will continue to make substantial investments in AI infrastructure and capabilities," citing servers, network equipment, and data centers as particular areas of investment.¹³⁶ An overlooked consideration is how such long-term investments, made possible in part by the alleged DTPA misconduct, impacted the company's short-term profitability, and will continue to affect the company's profitability into the future.

68. Finally, the Wiggins Report questions the notion that any benefit to Google from RPO, DRS, and Project Bernanke could increase AdX win rates and revenue.¹³⁷ Professor Wiggins posits that "because of advertiser and publisher learning and experimentation the alleged deception was unlikely to impact auction outcomes."¹³⁸ However, his opinions vis-à-vis advertiser and publisher learning and experimentation amount to little more than speculation, and overlook the fact that Google has and continues to externalize the costs of its deception, shifting those costs to advertisers and publishers.

¹³⁴ Andrien Opening Report, ¶111.

¹³⁵ Wiggins Report, ¶263.

¹³⁶ Skinner Report, ¶69.

¹³⁷ Wiggins Report, ¶264.

¹³⁸ Wiggins Report, ¶266.

HIGHLY CONFIDENTIAL

69. Evidence demonstrates the difficulty that competitors now face in trying to compete with Google's dominant display advertising position, which Google gained through its scheme to dominate the market, including through the DTPA misconducts. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

70. Thus, for all of the above reasons, the Wiggins Report misses the larger point, that the alleged DTPA misconducts alleged in this case are properly viewed as part of an *overall scheme* by Google to dominate and maintain its place in the display advertising industry using various levers at its disposal, *including the DTPA misconduct at issue*. Google's operating profit in display advertising does not even remotely represent the benefits to Google's positioning gained through its scheme, including the DTPA misconducts. The interconnectedness of Google's misconduct necessitates a holistic analysis accounting for the indirect benefits of the behavior, as I have

139 [REDACTED]

140 [REDACTED]

141 [REDACTED]

HIGHLY CONFIDENTIAL

undertaken, to determine reasonable and appropriate deceptive trade practices civil penalties, sufficient to deter future misconduct.

c. Google's Revenue is a Relevant Measure to Consider in Determining Appropriate Civil Penalties

71. The Wiggins Report argues that I wrongly base my estimation of civil penalties on display advertising revenue rather than incremental profit. As I discuss at length above, while profit is useful to consider, in order to meet the burden of deterrence and considering the indirect and future benefit that Google derives from its conduct, the profit of Google's display advertising segment is wholly insufficient in isolation to determine the appropriate level of penalties. Here, and in my Opening Report, I consider the revenue and profit of Google's display advertising segment, as well as the revenue and profit of Google as a whole in forming my opinions.

72. In addition to arguing that display advertising revenue is the wrong measure to consider, the Wiggins Report also criticizes my calculation of Google's display advertising revenue. Professor Wiggins argues that my inclusion of revenue from AdMob, AdSense for Content, and Campaign Manager, as well as DV360 revenue from third party exchanges, is inappropriate.¹⁴² I disagree.

73. As a preliminary matter, in its First Amended Responses and Objections to Plaintiffs' Third Set of Interrogatories, Google itself states, "[f]or the avoidance of doubt, Google will construe the term 'Ad Tech Products' to include the following Google products: Google Ads (solely as used for the purchase of display advertising, not search ad inventory), Display & Video 360, Campaign Manager, AdSense for Content (but not, for the avoidance of doubt, AdSense for Search), AdMob, and Google Ad Manager."¹⁴³ Google's internal documents also list the products

¹⁴² Wiggins Report, ¶112.

¹⁴³ Defendant Google LLC's First Amended Responses and Objections to Plaintiffs' Third Set of Interrogatories, May 24, 2024, p. 4.

HIGHLY CONFIDENTIAL

that fall under Google's core display business – this list includes AdMob, AdSense for Content, and Campaign Manager.¹⁴⁴ One of Google's internal documents explains that the [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] For example, Campaign Manager is an ad management tool for advertisers that “includes integrations with other Google products.”¹⁴⁶ Google documents show that Campaign Manager users also use DV360 as a demand side platform, and that “[s]ome of that [Campaign Manager] money might then use DoubleClick Bid Manager (DBM) [now part of DV360] to purchase inventory via Ad Exchange (AdX) to buy an ad slot managed by DoubleClick for Publishers (in which case it can be purchased via Ad Exchange or by another Network/SSP).”¹⁴⁷ The same document also shows that DV360 is a demand source for AdX, AdMob, and AdSense for Content.¹⁴⁸ Thus, Google's entire suite of display advertising products work together and are leveraged as part of a larger strategy to dominate across the ad tech stack. While I only count violations based on the number of Open Auction transactions in the AdX data, when evaluating the benefits to Google of its deceptive behavior, I consider not just the incremental profit of the specific auction programs implemented by Google, but on the larger benefit Google gained from its display advertising business, and further, the role that their dominance in display advertising played in their success overall.

¹⁴⁴ GOOG-AT-MDL-002189396 at -400.

¹⁴⁵ GOOG-AT-MDL-001057220 at -247-248.

¹⁴⁶ “Introducing Campaign Manager 360,” Google Blog, available at <https://support.google.com/campaignmanager/answer/10157783?hl=en>, accessed 8/22/2024.

¹⁴⁷ GOOG-AT-MDL-001057220 at -248, -250.

¹⁴⁸ GOOG-AT-MDL-001057220 at -250. *See also* GOOG-NE-02633839 at -844, a Google presentation from March 2017 showing that “AdX Buyers” contributed to AdMob's revenue in Q1 2017 and that AdX's contribution to AdMob revenue increased year over year.

HIGHLY CONFIDENTIAL

74. [REDACTED]

D. The Wiggins Report's Claims that Google's History of Prior Violations Discussed in my Opening Report is Dissimilar to the Conduct at Issue Here is Incorrect

75. The Wiggins Report claims that “none of [the] examples [of Google’s history of past fines and settlements discussed in my Opening Report] involved allegations similar to the alleged deception asserted in this case.”¹⁵⁴ I disagree. Professor Wiggins reaches his conclusion

¹⁴⁹ GOOG-NE-07249237 at -237.

¹⁵⁰ GOOG-NE-03730264 at -265.

¹⁵¹ GOOG-DOJ-15971437 at -454.

¹⁵² GOOG-NE-13236353 at -379.

¹⁵³ GOOG-DOJ-AT-02218994 at -996. [REDACTED]

¹⁵⁴ Wiggins Report, ¶20.

HIGHLY CONFIDENTIAL

by proposing several reasons that purportedly undermine the relevance of the [REDACTED] [REDACTED] fines and settlements paid by Google between 2013 and 2023.¹⁵⁵ However, none of these reasons undermine the relevance of these fines and settlements, which establish that Google has a history of: (i) deceiving its customers (consumers and businesses) and regulators;¹⁵⁶ and (ii) engaging in anticompetitive practices.¹⁵⁷ As I discuss below, Professor Wiggins' assertions are

¹⁵⁵ Wiggins Report, ¶273 and [REDACTED]

¹⁵⁶ [REDACTED]

[REDACTED]; "Google Will Pay \$22.5 Million to Settle FTC Charges it Misrepresented Privacy Assurances to Users of Apple's Safari Internet Browser," FTC, August 9, 2012, available at <https://www.ftc.gov/news-events/news/press-releases/2012/08/google-will-pay-225-million-settle-ftc-charges-it-misrepresented-privacy-assurances-users-apples>, accessed 8/20/24; "Google to Pay \$17 Million to Settle Privacy Case," The New York Times, November 18, 2013, available at <https://www.nytimes.com/2013/11/19/technology/google-to-pay-17-million-to-settle-privacy-case.html>, accessed 8/20/2024; "Google and YouTube Will Pay Record \$170 Million for Alleged Violations of Children's Privacy Law," FTC, September 4, 2019, available at <https://www.ftc.gov/news-events/news/press-releases/2019/09/google-youtube-will-pay-record-170-million-alleged-violations-childrens-privacy-law>, accessed 8/20/2024; "Google pays nearly \$392 million to settle sweeping location-tracking case," NPR, November 14, 2022, available at <https://www.npr.org/2022/11/14/1136521305/google-settlement-location-tracking-data-privacy>, accessed 8/20/2024; "Arizona announces \$85M settlement with Google over user data," Associated Press, October 4, 2022, available at <https://apnews.com/article/technology-business-lawsuits-arizona-440a27f1e7c2c672d3ccc727439978b4#>, accessed 8/20/2024; "Attorney General Todd Rokita secures \$20 million settlement with Google under same Indiana law being used against TikTok," Office of the Indiana Attorney General, December 29, 2022, available at https://events.in.gov/event/attorney_general_todd_rokita_secures_20_million_settlement_with_google_under_same_indiana_law_being_used_against_tiktok, accessed 8/20/2024; "AG Racine Announces Google Must Pay \$9.5 Million for Using 'Dark Patterns' and Deceptive Location Tracking Practices that Invade Users' Privacy," Office of the Attorney General for the District of Columbia, December 30, 2022, available at <https://oag.dc.gov/release/ag-racine-announces-google-must-pay-95-million>, accessed 8/20/2024; "Google LLC to pay \$60 million for misleading representations," Australian Competition & Consumer Commission, August 12, 2022, available at <https://www.accc.gov.au/media-release/google-llc-to-pay-60-million-for-misleading-representations>, accessed 8/20/2024.

¹⁵⁷ [REDACTED]; "Google Settles Russian Antitrust Case on Android Phones," Bloomberg, April 17, 2017, available at <https://www.bloomberg.com/news/articles/2017-04-17/google-settles-russian-antitrust-case-on-android-phones>, accessed 8/21/2024; "Google Fined – This Time by the Turkish Competition Watchdog," Kluwer Competition Law Blog, November 5, 2018, available at <https://competitionlawblog.kluwercompetitionlaw.com/2018/11/05/google-fined-this-time-by-the-turkish-competition-watchdog/>, accessed 8/21/2024; "S. Korea fines Google \$177 mln for blocking Android customization," Reuters, September 14, 2021, available at <https://www.reuters.com/technology/skorean-antitrust-agency-fines-google-177-mln-abusing-market-dominance-2021-09-14/>, accessed 8/21/2024; "Google loses appeal over EU antitrust ruling, but fine cut to \$4.12 billion," CNBC, September 14, 2022, available at <https://www.cnbc.com/2022/09/14/eu-court-backs-antitrust-ruling-against-google-but-reduces-fine.html>, accessed 8/21/2024; "Google fined \$162 mln by India antitrust watchdog for abuse of Android platform," Reuters, October 20, 2022, available at <https://www.reuters.com/world/india/india-competition-regulator-fines-google-16195-mln-anti-competitive-practices-2022-10-20/>, accessed 8/21/2024; "Antitrust: Commission fines Google €2.42 billion for abusing dominance as search engine by giving illegal advantage to own comparison shopping service – Factsheet," European Commission, June 27, 2017, available at https://ec.europa.eu/commission/presscorner/detail/en/MEMO_17_1785, accessed 8/21/2024; "Competition

HIGHLY CONFIDENTIAL

based on misleading classification of the conduct at issue in those proceedings, as well as certain unsupported and illogical assertions.

76. First, the Wiggins Report attempts to undermine the information as being compiled by a disgruntled competitor. This is nothing but a red herring. Professor Wiggins is correct that this information was not compiled by the FTC itself but was instead compiled by a third-party and filed with the FTC. However, Professor Wiggins does not dispute the contents. In other words, regardless of who prepared the list, Professor Wiggins does not challenge the salient fact shown by the list that Google has, in fact, been subject to the allegations of each respective case/proceeding and has paid those fines and settlements.

77. Fundamental to his conclusion, however, is an analysis purporting to classify the various fines and settlements based on the type of misconduct at issue in those proceedings.¹⁵⁸ Based on this analysis, Professor Wiggins concludes that none of the fines and settlements involved “claims similar to the deceptive conduct alleged in this case,” but rather, were related to “Other claims (e.g. privacy, antitrust).”¹⁵⁹ Professor Wiggins classification of certain fines and settlements as privacy related is misleading.¹⁶⁰ Contrary to Professor Wiggins’ assertions, the settlements he classifies as privacy related include settlements for alleged deceptive conduct that

Commission of India fines Google for abusing dominant position,” Reuters, February 8, 2018, available at <https://www.reuters.com/article/india-google-antitrust-idINKBN1FS29Z/>, accessed 8/21/2024; “Turkey fines Google for abusing dominant position,” Reuters, April 14, 2021, available at <https://www.reuters.com/technology/turkey-fines-google-abusing-dominant-position-2021-04-14/>, accessed 8/21/2024; “Antitrust: Commission fines Google €1.49 billion for abusive practices in online advertising,” European Commission, March 20, 2019, available at https://ec.europa.eu/commission/presscorner/detail/en/IP_19_1770, accessed 8/21/2024; “The Autorité de la concurrence hands out a €220 millions fine to Google for favouring its own services in the online advertising sector,” Autorité de la concurrence, June 7, 2021, available at <https://www.autoritedelaconcurrence.fr/en/communiqués-de-presse/autorite-de-la-concurrence-hands-out-eu220-millions-fine-google-favouring-its>, accessed 8/21/2024; “India orders Google to allow third-party payments, slaps on another fine,” Reuters, October 26, 2022, available at <https://www.reuters.com/technology/india-fines-google-113-million-second-antitrust-penalty-this-month-2022-10-25/>, accessed 8/20/2024.

¹⁵⁸ Wiggins Report, ¶273; Table 6.

¹⁵⁹ Wiggins Report, ¶273; Table 6.

¹⁶⁰ Wiggins Report, ¶276.

HIGHLY CONFIDENTIAL

violate deceptive trade practices statutes of various jurisdictions. Perhaps the most egregious such example involves Google's \$391 million settlement with 40 states led by the Commonwealth of Pennsylvania (the "Pennsylvania Location Litigation"), involving location tracking.¹⁶¹ The allegations in the Pennsylvania Location Litigation involved Google's misrepresentations about location history, web and app activity, users' ability to control their privacy through Google account settings, and the personalization setting.¹⁶² In other words, the Plaintiffs alleged Google deceived users about the information that it was collecting and the control that they had over Google's ability to collect that data and how it was used in advertising. Thirteen of the seventeen Plaintiff States in this litigation were also Plaintiffs in the Pennsylvania Location Litigation.¹⁶³ These states alleged that Google's deceptive conduct in the Pennsylvania Location Litigation violated *exactly the same* statutes as its deceptive conduct in this case.¹⁶⁴ The remaining Plaintiffs in the Pennsylvania Location Litigation that are not party to this lawsuit also alleged violations of their deceptive trade practice statutes. **Table 1** below reports the statutes which Plaintiff States in this matter that were also Plaintiffs in the Pennsylvania Location Litigation alleged Google violated in both cases.

¹⁶¹ "Assurance of Voluntary Compliance in the Matter of Commonwealth of Pennsylvania v. Google, LLC," November 10, 2022, available at <https://www.attorneygeneral.gov/wp-content/uploads/2022/11/2022-11-14-PA-v.-Google-LLC-AVC-efile.pdf>.

¹⁶² "Assurance of Voluntary Compliance in the Matter of Commonwealth of Pennsylvania v. Google, LLC," November 10, 2022, available at <https://www.attorneygeneral.gov/wp-content/uploads/2022/11/2022-11-14-PA-v.-Google-LLC-AVC-efile.pdf>.

¹⁶³ These states are Alaska, Arkansas, Florida, Idaho, Kentucky, Louisiana, Mississippi, Missouri, Nevada, North Dakota, South Carolina, South Dakota and Utah. *See*, "Assurance of Voluntary Compliance in the Matter of Commonwealth of Pennsylvania v. Google, LLC," November 10, 2022, available at <https://www.attorneygeneral.gov/wp-content/uploads/2022/11/2022-11-14-PA-v.-Google-LLC-AVC-efile.pdf>.

¹⁶⁴ Certain states may have alleged violations for additional statutes to those at issue in this litigation. For example, Arkansas alleged violations of its the Personal Information Protection Act in addition to the Arkansas Deceptive Trade Practices Act.

HIGHLY CONFIDENTIAL

TABLE 1

State Statutes Sued Under		
State/Territory	Statute(s) Sued Under in this Matter	Statute(s) Sued Under in the Pennsylvania Location Litigation
Alaska	Alaska Unfair Trade Practices and Consumer Protection Act	Alaska Unfair Trade Practices and Consumer Protection Act
Arkansas	Arkansas Deceptive Trade Practices Act	Arkansas Deceptive Trade Practices Act; Personal Information Protection Act
Florida	Florida Deceptive and Unfair Trade Practices Act	Florida Deceptive and Unfair Trade Practices Act
Idaho	Idaho Consumer Protection Act; Idaho Rules of Consumer Protection	Idaho Consumer Protection Act
Kentucky	Kentucky Revised Statutes (“KRS”) Chapter 367	Kentucky Revised Statutes (“KRS”) Chapter 367
Louisiana	Louisiana Unfair Trade Practices and Consumer Protection Law	Louisiana Unfair Trade Practices and Consumer Protection Law
Mississippi	Mississippi Consumer Protection Act	Mississippi Consumer Protection Act
Missouri	Missouri’s Merchandising Practices Act; 15 Missouri Code of State Regulations 60-8 and 60-9	Missouri’s Merchandising Practices Act
Nevada	Nevada Deceptive Trade Practices Act	Nevada Deceptive Trade Practices Act
North Dakota	North Dakota Century Code (“N.D.C.C.”) § 51-15-01, et seq.	North Dakota Century Code (“N.D.C.C.”) § 51-15-01, et seq.
South Carolina	South Carolina Unfair Trade Practices Act	South Carolina Unfair Trade Practices Act
South Dakota	South Dakota’s Codified Laws Chapter 37-24	South Dakota’s Codified Laws Chapter 37-24
Utah	Utah Consumer Sales Practices Act	Utah Consumer Sales Practices Act

Notes:

- 1) Only states who were plaintiffs in both this matter and the Pennsylvania Location Litigation are listed here.
- 2) Statutes that were sued under in one case but not the other are bolded. Antitrust statutes charged under in this litigation are not listed.

Sources: Fourth Amended Complaint in State of Texas et al. vs. Google LLC, In Re: Google Digital Advertising Antitrust Litigation, Civil Action No. 1:21-cv-06841-PKC, May 5, 2023; Assurance of Voluntary Compliance in the Commonwealth of Pennsylvania vs. Google LLC, November 10, 2022.

78. Additionally, I understand that an assessment of an offender’s history of prior violations should focus on the conduct at issue and not necessarily be limited to a particular statute or jurisdiction.¹⁶⁵ I understand that the “the history of prior violations” factor is not limited to violations within a particular geography, and Professor Wiggins’ conclusory statements to the contrary are wholly unsupported in his report. For example, conspicuously absent from the “history of previous violations” factor in both Texas’ and Utah’s statutes is any indication of geographical

¹⁶⁵ Further, I find that it would be illogical to exclude violations outside of a certain jurisdiction when the nature of the conduct is not jurisdictional, for example I understand all states have a variation of deceptive trade practice law.

HIGHLY CONFIDENTIAL

location or identical misconduct.¹⁶⁶ The history of alleged misbehavior on the part of the offender is relevant as it presents a pattern for the trier of fact to consider in making its determination of penalties. Additionally, repeated offenses indicate the prior assessed penalty amounts were insufficient to deter future misconduct, and that more severe penalties are warranted.

79. Similarly, limiting an assessment of the history of prior violations to a particular statute may preclude relevant information from being considered. I understand that many states have multiple consumer protection statutes addressing various aspects of consumer rights and protections. Some such laws may offer broad protections like the deceptive trade practices acts at issue in this litigation, while others, like the Arkansas Personal Information Protection Act (“APIPA”) or the Texas Capture or Use of Biometric Identifier Act (“CUBI”), may offer more focused protections. Moreover, I understand that various states’ consumer protection statutes allow a private right of action by private parties, a government enforcement action, or both, to seek remedies or enforcement for violation of the statutes. If the inquiry into past violations is limited to a particular statute, relevant information regarding similar conduct by an offender may be inappropriately omitted from consideration.

80. For the same reason, the fact that some of the fines and settlements were related to jurisdictions outside the United States (even if there may be differences between statutes applicable domestically)¹⁶⁷ is irrelevant to my analysis of determining whether Google has a history of engaging in deceptive and anticompetitive conduct. Moreover, Google is a global company, and there is no contrary evidence to justify an assumption that Google is willing to significantly modify its conduct between jurisdictions—both foreign and domestic. The Wiggins Report does not

¹⁶⁶ I also understand that, in assessing civil penalties in other contexts where the history of previous violations is a statutory factor, various courts have noted that the history of previous violations should be considered generally.

¹⁶⁷ There may even be differences between domestic statutes of different jurisdictions.

HIGHLY CONFIDENTIAL

provide any reason to think that this would be the case, nor does he argue that the underlying Google deceptive conduct somehow automatically stopped once one crossed the U.S. border. On the contrary, Google's history of past fines and settlements indicates that its misconduct abroad also takes place in the United States and vice versa. For example, in 2012, Google paid \$22.5 million to settle charges brought by the FTC and in 2013, an additional \$17 million to 37 States and Washington D.C. for falsely claiming that it would *not* use tracking cookies on certain users.¹⁶⁸ In 2020, France fined Google 100 million euros over Google's cookie practices, and again in 2022, fined Google 150 million euros for making it difficult to refuse the use of cookies.¹⁶⁹ In yet another example, Google was forced to pay or settled with various U.S. States and Australia over allegations it misrepresented to some consumers that it was not tracking their device's location.¹⁷⁰ These examples show that Google engages in similar deceptive misconduct all over the world, and that previous fines and settlements have not dissuaded Google from such misconduct.

81. Such behavior also extends to Google's anticompetitive conduct. In October 2022, Google was fined \$113 million by India's antitrust body for restricting app developers from using non-Google payment services.¹⁷¹ Less than 14 months later, a United States federal jury unanimously found that Google had similarly maintained a monopoly and engaged in similar

¹⁶⁸ "Google Will Pay \$22.5 Million to Settle FTC Charges it Misrepresented Privacy Assurances to Users of Apple's Safari Internet Browser," FTC, August 9, 2012, available at <https://www.ftc.gov/news-events/news/press-releases/2012/08/google-will-pay-225-million-settle-ftc-charges-it-misrepresented-privacy-assurances-users-apples>, accessed 8/20/24; "Google to Pay \$17 Million to Settle Privacy Case," The New York Times, November 18, 2013, available at <https://www.nytimes.com/2013/11/19/technology/google-to-pay-17-million-to-settle-privacy-case.html>, accessed 8/20/2024.

¹⁶⁹ "France fines Google and Facebook over cookies," BBC, January 7, 2022, available at <https://www.bbc.com/news/technology-59909647>, accessed 8/20/2024.

¹⁷⁰ "Google pays nearly \$392 million to settle sweeping location-tracking case," NPR, November 14, 2022, available at <https://www.npr.org/2022/11/14/1136521305/google-settlement-location-tracking-data-privacy>, accessed 8/20/2024; and "Google LLC to pay \$60 million for misleading representations," Australian Competition & Consumer Commission, August 12, 2022, available at <https://www.accc.gov.au/media-release/google-llc-to-pay-60-million-for-misleading-representations>, accessed 8/20/2024

¹⁷¹ "India orders Google to allow third-party payments, slaps on another fine," Reuters, October 26, 2022, available at <https://www.reuters.com/technology/india-fines-google-113-million-second-antitrust-penalty-this-month-2022-10-25/>, accessed 8/20/2024.

HIGHLY CONFIDENTIAL

anticompetitive conduct in the United States.¹⁷² Similarly, Google was fined in Russia, the EU, India, and Turkey for using its Android mobile platform to ensure all Android phones had Google set as the default search engine.¹⁷³ On August 5, 2024, a federal judge in the United States ruled that “Google is a monopolist, and it has acted as one to maintain its monopoly” in the general search services and general search text ads markets.¹⁷⁴ These antitrust cases are indicative of Google's anticompetitive practices are not isolated incidents but a pattern repeated across multiple countries.

82. The conduct at issue here is Google’s practice of deceiving and/or misleading its customers. Professor Wiggins’ classification and dismissal of settlements as privacy related is merely an attempt to undermine the similarity of Google’s misconduct based on the subject matter of the deception, rather than the deception itself. Using Professor Wiggins’ logic, because the subject matter of Google’s deception in this case, namely, auction manipulation in the AdTech stack is different from deceiving users and violating their privacy, fines and settlements related to what he classifies as privacy violations should *not* be considered when determining whether

¹⁷² “Google Loses Antitrust Court Battle With Makers of Fortnite Video Games,” The New York Times, December 11, 2023, available at <https://www.nytimes.com/2023/12/11/technology/epic-games-google-antitrust-ruling.html>, accessed 8/20/2024. Later, Google agreed to pay \$700 million to settle a similar case against all 50 States. *See*, “Google, US states defend \$700 mln Play store antitrust settlement,” Reuters, April 18, 2024, available at <https://www.reuters.com/legal/transactional/google-us-states-defend-700-mln-play-store-antitrust-settlement-2024-04-18/>, accessed 8/21/2024.

¹⁷³ *See*, “Google Settles Russian Antitrust Case on Android Phones,” Bloomberg, April 17, 2017, available at <https://www.bloomberg.com/news/articles/2017-04-17/google-settles-russian-antitrust-case-on-android-phones>, accessed 8/21/2024; “Google Fined – This Time by the Turkish Competition Watchdog,” Kluwer Competition Law Blog, November 5, 2018, available at <https://competitionlawblog.kluwercompetitionlaw.com/2018/11/05/google-fined-this-time-by-the-turkish-competition-watchdog/>, accessed 8/21/2024; “Google loses appeal over EU antitrust ruling, but fine cut to \$4.12 billion,” CNBC, September 14, 2022, available at <https://www.cnbc.com/2022/09/14/eu-court-backs-antitrust-ruling-against-google-but-reduces-fine.html>; accessed 8/21/2024, and “Google fined \$162 mln by India antitrust watchdog for abuse of Android platform,” Reuters, October 20, 2022, available at <https://www.reuters.com/world/india/india-competition-regulator-fines-google-16195-mln-anti-competitive-practices-2022-10-20/>, accessed 8/21/2024.

¹⁷⁴ United States District Court for the District of Columbia, *United States v. Google LLC*, Case No. 20-cv-3010 (APM), Memorandum Opinion, August 5, 2024, p. 8.

HIGHLY CONFIDENTIAL

Google has a history of violations related to deceiving and misleading business practices.¹⁷⁵ That's like arguing that your child does not have a history of lying because the first time he got caught, he was lying about his grades, but on the latest occasion, he was lying about attending a party. This is improper and illogical.

83. Over 90% of the fines and settlement fees that Professor Wiggins classifies as "privacy" related involve allegations of Google deceiving users (or not informing them at all) about the information that it was collecting and the control that they had over Google's ability to collect that data.¹⁷⁶ Several fines and settlements that Professor Wiggins attempts to dismiss as

¹⁷⁵ For example, Professor Wiggins' Appendix G "lists a \$391.5 million dollar settlement for privacy violations on November 14, 2022. This refers to Google's settlement for tracking user location. *See*, "Attorney General Josh Shapiro Announces \$391 Million Settlement with Google Over Location Tracking Practices," Office of the Pennsylvania Attorney General, November 14, 2022, available at <https://www.attorneygeneral.gov/taking-action/attorney-general-josh-shapiro-announces-391-million-settlement-with-google-over-location-tracking-practices/>, accessed 8/22/2024. While the allegations of that case centered around deceiving consumers about tracking their location, Professor Wiggins somehow does not consider this deception in Google's advertising stack to be similar conduct to the "deceptive conduct alleged in this case."

¹⁷⁶ Wiggins Report Table G1; "Italy slaps Google's hand with \$1.4M fine for not clearly labeling Street View cars," VentureBeat, April 4, 2014, available at <https://venturebeat.com/business/italy-slaps-googles-hand-with-1-4m-fine-for-not-labeling-street-view-cars/>, accessed 8/28/2024; "Italy's antitrust regulator fines Google, Apple over data use," Reuters, November 29, 2021, available at <https://www.reuters.com/technology/italys-antitrust-fines-google-apple-commercial-use-data-2021-11-26/>, accessed 8/28/2024; "Google LLC to pay \$60 million for misleading representations," Australian Competition & Consumer Commission, August 12, 2022, available at <https://www.accc.gov.au/media-release/google-llc-to-pay-60-million-for-misleading-representations>, accessed 8/28/2024; "S. Korea fines Google, Meta billions of won for privacy violations," Reuters, September 15, 2022, available at <https://www.reuters.com/technology/skorea-fines-google-meta-over-accusations-privacy-law-violations-2022-09-14/>, accessed 8/28/2024; "Google Will Pay \$22.5 Million to Settle FTC Charges it Misrepresented Privacy Assurances to Users of Apple's Safari Internet Browser," FTC, August 9, 2012, available at <https://www.ftc.gov/news-events/news/press-releases/2012/08/google-will-pay-225-million-settle-ftc-charges-it-misrepresented-privacy-assurances-users-apples>, accessed 8/28/2024; "Google to pay \$7 million in multistate settlement over Street View," Washington State Office of the Attorney General, March 11, 2013, available at <https://www.atg.wa.gov/news/news-releases/google-pay-7-million-multistate-settlement-over-street-view>, accessed 8/28/2024; "Google to Pay \$17 Million to Settle Privacy Case," The New York Times, November 18, 2013, available at <https://www.nytimes.com/2013/11/19/technology/google-to-pay-17-million-to-settle-privacy-case.html>, accessed 8/28/2024; "Google and YouTube Will Pay record \$170 Million for Alleged Violations of Children's Privacy Law," FTC, September 4, 2019, available at <https://www.ftc.gov/news-events/news/press-releases/2019/09/google-youtube-will-pay-record-170-million-alleged-violations-childrens-privacy-law>, accessed 8/28/2024; Global Settlement Agreement in the case of Balderas v. Tiny Lab Productions, et al.; No. 1:18-cv-00854-MV-JFR and Balderas v. Google LLC, No. 1:20-cv-00143-NF-KHR; "Attorney General Mark Brnovich Achieves Historic \$85 Million Settlement with Google," Arizona Office of the Attorney General, October 4, 2022, available at <https://www.azag.gov/press-release/attorney-general-mark-brnovich-achieves-historic-85-million-settlement-google>, accessed 8/28/2024; "Google pays nearly \$392 million to settle sweeping location-tracking case," NPR, November 14, 2022, available at <https://www.npr.org/2022/11/14/1136521305/google-settlement-location-tracking-data->

HIGHLY CONFIDENTIAL

dissimilar are related to alleged violations of state or federal deceptive trade practice statutes that are the same as those asserted in this case, or the equivalent versions of different jurisdictions.¹⁷⁷

84. The Wiggins Report also claims that considering these settlements and fines are inconsistent with the framework I used in my Opening Report, which he fundamentally mischaracterizes as being limited to “eliminat[ing] Google’s financial incentive to engage in the misconduct.” But that’s wrong. This false characterization alone invalidates this critique. As detailed above and in my Opening Report, my holistic framework explicitly considers Google’s history of previous similar violations as a factor in assessing the appropriate amount of civil penalties. Additionally, as detailed in my Opening Report, “both the alleged deceptive trade practices misconduct and the separate antitrust conduct alleged in this case play a role within an overall scheme to dominate the display advertising industry.”¹⁷⁸ As such, both conducts are at issue

privacy, accessed 8/28/2024; “FTC, States Sue Google and iHeartMedia for Deceptive Ads Promoting the Pixel 4 Smartphone,” FTC, November 28, 2022, available at <https://www.ftc.gov/news-events/news/press-releases/2022/11/ftc-states-sue-google-iheartmedia-deceptive-ads-promoting-pixel-4-smartphone>, accessed 8/28/2024; “Google to pay \$29.5 million to settle DC, Indiana lawsuits over location tracking,” The Hill, December 31, 2022, available at <https://thehill.com/policy/technology/3794301-google-to-pay-29-5-million-to-settle-dc-indiana-lawsuits-over-location-tracking/>, accessed 8/28/2024; “Google to pay Indiana \$20 million to resolve tracking privacy lawsuit,” PBS News, December 30, 2022, available at <https://www.pbs.org/newshour/economy/google-to-pay-indiana-20-million-to-resolve-tracking-privacy-lawsuit>, accessed 8/28/2024; Complaint for Injunction, Civil Penalties, and Other Equitable Relief in the People of the State of California v. Google, September 14, 2023; Plaintiff’s First Amended Petition in The State of Texas v. Google LLC, filed May 19, 2022.

¹⁷⁷ Draft of Assurance of Voluntary Compliance in the case of States v. Google, available at <https://agportal-s3bucket.s3.amazonaws.com/uploadedfiles/WiFi%20-%20AVC%20-%20Final.pdf>, accessed 8/28/2024; Assurance of Voluntary Compliance in the Matter of Google Inc., November 13, 2013; Complaint for Permanent Injunction, Civil Penalties, and Other Equitable Relief in the Matter of Federal Trade Commission and People of the State of New York v. Google LLC and YouTube LLC, Case No.: 1:19-cv-2642, September 4, 2019; Complaint for Injunctive and Other Relief in the Matter of State of Arizona v. *Google LLC*, Case No: CV 2020-006219, May 27, 2020; Assurance of Voluntary Compliance in the Matter of Commonwealth of Pennsylvania v. Google, LLC, November 10, 2022; Complaint in the Matter of Google LLC, and IHeartMedia, Inc., Docket Nos. C-4783 and C-4784, February 8, 2023; “Settlement Agreement in the Matter of the District of Columbia v. Google LLC,” December 29, 2022; Settlement Agreement in *State of Indiana v. Google LLC*, Cause No. 49D01-2201-PL-002399, December 29, 2022; Plaintiff’s First Amended Petition in the Matter of the State of Texas v. Google LLC, Cause No. 2201-88230-D, May 19, 2022.

¹⁷⁸ Andrien Opening Report, ¶11.

HIGHLY CONFIDENTIAL

in this case, and Google's history of prior fines and settlements are also relevant to determining the penalties in this case.

85. Professor Wiggins also claims the settlements that he classifies as privacy related did not involve admissions of liability, and therefore “do not indicate that Google has engaged in any misconduct, much less a similar type of misconduct to what is at issue in this case.”¹⁷⁹ While Google may have settled several proceedings without admitting liability, that does not make these settlements irrelevant for the purposes of determining the statutory penalties in this case. The concept of relative valuation based on observed transactions is well established in finance, is considered one of the three main approaches to valuation (the “Market Approach”).¹⁸⁰ While finding observable transactions involving exactly the same asset or company is not possible, the “standard sought is usually one of reasonable and justifiable similarity,” which is typically attainable.¹⁸¹ Of course, adjustments to the observed transactions to make them more comparable to the subject asset may be necessary.¹⁸² Courts regularly accept this methodology, and I too have submitted several expert reports that include the Market Approach.

86. The application of the Market Approach is not limited to valuation but has also been extended to damages calculations. For example, one factor that is considered in determining reasonable royalty damages in patent cases is “the royalties received by the patentee for the licensing of the patent in suit, proving or tending to prove an established royalty.”¹⁸³ The Federal Circuit approves of reliance on prior patent licenses, which are often not granted in identical

¹⁷⁹ Wiggins Report, ¶275.

¹⁸⁰ Sheridan Titman & John D. Martin, *Valuation: The Art and Science of Corporate Investment Decisions* (Addison Wesley, 2007) p. 215; Shannon Pratt, Robert Reilly, Robert Schweihs, “Valuing A Business,” Third Edition, Chapters 10 and 11.

¹⁸¹ Shannon Pratt, Robert Reilly, Robert Schweihs, “Valuing A Business,” Third Edition, p. 204.

¹⁸² Sheridan Titman & John D. Martin, *Valuation: The Art and Science of Corporate Investment Decisions* (Addison Wesley, 2007), pp. 216 – 220.

¹⁸³ *Georgia-Pacific v. United States Plywood Corp.*, 318 F. Supp. 1116, 1120-21 (S.D. N.Y. 1970), modified and aff'd, 446 F.2d 295 (2d Cir. 1971).

HIGHLY CONFIDENTIAL

circumstances (including licenses granted as part of litigation settlements), as long as agreements are sufficiently comparable and reasonable adjustments for differences in contexts are made.¹⁸⁴ Like Google’s “privacy” related settlements, patent litigation settlements often do not include admissions of liability, and are often entered into prior to determinations of validity and infringement. Accordingly, these settlements require an adjustment for a determination of liability to make them more appropriate for a damages determination. However, this is typically an upward adjustment, because, as the Supreme Court recognizes “[m]ost defendants are unlikely to settle unless the cost of the predicted judgment, discounted by its probability, plus the transaction costs of further litigation, are greater than the cost of the settlement package.”¹⁸⁵

87. While Professor Wiggins claims that “[t]hese settlements could just as easily be explained as efforts to avoid the costs and uncertainties of litigation and the associated distractions of executives who are more usefully employed in running Google’s business,” he provides no evidence to show that the costs associated with the litigation or executives being distracted were so great that Google would be willing to pay millions of dollars to avoid these costs. In one case, the settlement was valued at \$5 billion.¹⁸⁶

88. Finally, Professor Wiggins asserts that Google’s past fines and settlements should be considered “detrimental” because “standard economic analysis recognizes that firms seek to maximize their profits” and each fine or settlement reduced Google’s profits.¹⁸⁷ This is incorrect, or at the very least, an insufficient or limited goal that can lead to imprudent decisions. Professor Wiggins seems to be unaware of the fundamental goal of financial management, which is taught

¹⁸⁴ See, e.g. *Prism Techs. LLC v. Sprint Spectrum L.P.*, 849 F.3d 1360, 1369–70 (Fed. Cir. 2017).

¹⁸⁵ *Evans v. Jeff D.*, 475 U.S. 717, 734, 106 S.Ct. 1531, 89 L.Ed.2d 747 (1986) ; *Staton v. Boeing Co.*, 327 F.3d 938, 964 (9th Cir. 2003) (quoting *Evans*, 475 U.S. at 734, 106 S.Ct. 1531)

¹⁸⁶ Wiggins Report, Table G1.

¹⁸⁷ Wiggins Report, ¶278.

HIGHLY CONFIDENTIAL

to undergraduates at the McCombs School of Business at the University of Texas in chapter one of the first finance course that they are required to take. Specifically, the goal of financial management of a firm is to maximize shareholder value.¹⁸⁸ Profit maximization is considered an imprecise objective because it is unclear which profit is to be maximized – is it profit for the current year, or next year or over some five, ten year or longer-term period? For example, an aircraft manufacturer could choose to maximize its current profit by eliminating its quality control function and using defective parts in its airplanes (instead of replacing them with new parts). This would lower its costs and maximize its profit in the year this policy is implemented. In fact, it may even maximize profits for several years. But as we know, eventually an airplane likely will crash, with very significant and detrimental effects to the aircraft manufacturer and others. Such an imprudent action can be justified if the goal is to simply maximize profits. But it is not justifiable when the goal is to maximize shareholder value because the market would penalize the share price of the aircraft manufacturer for the increased risk associated with airplane crashes if it would implement such measures. As such, the relevant measure is shareholder value, not profit maximization. And as documented extensively in my Opening Report, Google has outperformed the market and grown to be the fourth largest company in the world. Thus, even Google's seemingly significant fines and settlements of over [REDACTED] have not hindered its financial performance. In fact, even if measured as a portion of Google's profits, this [REDACTED] is merely [REDACTED] of Google's net income between 2011 and 2022 and [REDACTED] of Google's revenue over the same period.¹⁸⁹

¹⁸⁸ Fundamentals of Corporate Finance, pp. 12, 13.

¹⁸⁹ S&P Capital IQ; Alphabet Inc. Form 10-Ks for fiscal years ended 2011-2022.

HIGHLY CONFIDENTIAL

E. The Wiggins Report Improperly Quantifies and Significantly Understates Violation Counts

89. Professor Wiggins claims that I have inflated violation counts and thus overestimated the number of DTPA violations committed by Google. Professor Wiggins makes several “corrections” to my violation count, which I address below and explain why each is unfounded.

a. Google Deceived and Misled Auction Participants into Believing That AdX Ran a Second-Price Auction

90. The Wiggins Report argues that it is incorrect to assume that all Open Auctions were affected by Google’s actions during the period in which the misconducts were active.¹⁹⁰ In doing so, he critiques my reliance on Dr. Weinberg, an auction expert proffered by the Plaintiff States.¹⁹¹

91. I understand, however, that during the relevant period Google falsely, misleadingly, and deceptively misrepresented the entire AdX auction model, for example stating that “Ad Exchange uses a second price auction model,”¹⁹² when in fact it did not, or by stating that all participants were on equal footing in AdX auctions,¹⁹³ when in fact they were not. Indeed, while Google deceived auction participants into believing that AdX auctions had certain characteristics that it did not, Google was actively manipulating AdX auctions through its RPO, DRS, and Bernanke programs such that the auction model was not second price and such that all players

¹⁹⁰ See, for example, Wiggins Report, ¶¶15, 118.

¹⁹¹ See, for example, Wiggins Report, ¶¶15, footnote 5; 118, footnote 263. I also understand that other experts besides Dr. Weinberg, including Dr. Chandler and Dr. Rudin, have reached the same conclusion.

¹⁹² GOOG-NE-06567486 at -490.

¹⁹³ “Simplifying programmatic: first price auctions for Google Ad Manager,” Google Blog, March 6, 2019, available at <https://blog.google/products/admanager/simplifying-programmatic-first-price-auctions-google-ad-manager/>, accessed 5/7/2024; “How Open Bidding Works,” Google Ad Manager, November 20, 2019, available at <https://web.archive.org/web/20191120001210/https://support.google.com/admanager/answer/7128958>, accessed 5/23/2024.

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were not on equal footing.¹⁹⁴ As I state in my Opening Report, “[w]hile a specific Google program might not have run on each auction during a given period, the misrepresentations of those targeted auctions as second-price auctions, first-price auctions, or that participants were on equal footing in such auctions, and the inability of publishers and advertisers to determine whether and to what extent Google’s programs/conduct applied to a given auction caused publishers and advertisers to behave differently than they would have but for Google’s misconduct.”¹⁹⁵ In other words, through its auction manipulation programs and its deception regarding those manipulations, Google affected all Open Auctions and all Open Auction participants.

92. I understand that Dr. Weinberg explained that Google’s conducts individually and in totality were deceptive, which created a situation where Google’s entire display advertising ecosystem was affected by Google’s conduct¹⁹⁶ and that each auction was affected.¹⁹⁷

93. First, Dr. Weinberg explained that Project Bernanke (all forms of it) was deceptive¹⁹⁸ because it required advertisers, if they were to make the optimal decision, to bid shade, which Dr. Weinberg noted in his opening report and which I understand Google did not dispute.¹⁹⁹ But Bernanke was also deceptive because it induced advertisers, through its auto-bidding functionality, to trust Google’s GDN to optimize on their behalf (which it did not) and to submit truthful, non-optimal bids.²⁰⁰ Advertisers only did this because Google chose not to disclose Buy-Side DRS, Project Bernanke, or Project Global Bernanke (with first-price payment rule), which means Google’s decision not to disclose the conduct was also deceptive.²⁰¹

¹⁹⁴ Weinberg Report, §§ 7.A; 7.D; 7.F; 8.E; 8.G; 9.B.

¹⁹⁵ Andrien Opening Report, ¶98.

¹⁹⁶ Rebuttal Report of Professor Matthew Weinberg, September 9, 2024 (“Weinberg Rebuttal Report”), §IV. B; Interview with Dr. Matthew Weinberg, September 8, 2024.

¹⁹⁷ See Weinberg Rebuttal Report, §IV.G; Interview with Dr. Matthew Weinberg, September 8, 2024.

¹⁹⁸ Weinberg Rebuttal Report, §IV.C; Interview with Dr. Matthew Weinberg, September 8, 2024.

¹⁹⁹ Weinberg Rebuttal Report, §IV.C; Interview with Dr. Matthew Weinberg, September 8, 2024.

²⁰⁰ Weinberg Rebuttal Report, §IV.C; Interview with Dr. Matthew Weinberg, September 8, 2024.

²⁰¹ Weinberg Rebuttal Report, §IV.C; Interview with Dr. Matthew Weinberg, September 8, 2024.

HIGHLY CONFIDENTIAL

94. I also understand from Dr. Weinberg that Google acted deceptively regarding Project Bernanke because it misrepresented how GDN functioned.²⁰² Because of that deception, publishers did not (and likely could not) set optimal reserves, even if they were perfectly processing the winning bid date on all auctions.²⁰³ Dr. Weinberg goes on to explain how the “collusion” aspect of Project Bernanke created additional deception that prevented publishers from acting optimally, which directly refutes Professor Wiggin’s claim that publishers were perfectly optimizing reserves.²⁰⁴

95. In light of these actions, Dr. Weinberg found that Google’s conduct with respect to Project Bernanke was deceptive towards advertisers during all periods when Buy-side DRS/Project Bernanke used a first-price rule and was deceptive towards publishers during all periods.²⁰⁵

96. Dr. Weinberg goes on to explain how DRS was also deceptive.²⁰⁶ Dr. Weinberg found that the conduct was deceptive towards advertisers in regards to DRSv1, because Google’s conduct would encourage advertisers/ad buying tools to bid their true values instead of bid-shading in the dynamic region,²⁰⁷ and was deceptive as to DRSv2 because Google’s deception caused advertisers to pay more than their value for impressions, because advertisers and ad buying tools believed AdX was running a second-price auction—what Google claimed—when it was not.²⁰⁸ This led to suboptimal behavior.²⁰⁹ And even when confronted, Google made minimal, deceptive disclosures and communications (both publicly and privately) that were not sufficient to inform ad

²⁰² Weinberg Rebuttal Report, §IV.C; Interview with Dr. Matthew Weinberg, September 8, 2024.

²⁰³ Weinberg Rebuttal Report, §IV.C; Interview with Dr. Matthew Weinberg, September 8, 2024.

²⁰⁴ Weinberg Rebuttal Report, §IV.C; Interview with Dr. Matthew Weinberg, September 8, 2024.

²⁰⁵ Weinberg Rebuttal Report, §IV.C; Interview with Dr. Matthew Weinberg, September 8, 2024.

²⁰⁶ Weinberg Rebuttal Report, §IV.D; Interview with Dr. Matthew Weinberg, September 8, 2024.

²⁰⁷ Weinberg Rebuttal Report, §IV.D; Interview with Dr. Matthew Weinberg, September 8, 2024.

²⁰⁸ Weinberg Rebuttal Report, §IV.D; Interview with Dr. Matthew Weinberg, September 8, 2024.

²⁰⁹ Weinberg Rebuttal Report, §IV.D; Interview with Dr. Matthew Weinberg, September 8, 2024.

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buying tools to act optimally.²¹⁰ This caused advertisers to pay more than their bid for impressions and publishers to set reserves too low and to believe that they were always being paid their price floors.²¹¹

97. Dr. Weinberg also explains how RPO was deceptive towards advertisers.²¹² If advertisers fully understood RPO, they would have significantly shaded their bids.²¹³ Because they did not, they engaged in behavior that was suboptimal.²¹⁴ In explaining this, Dr. Weinberg addresses Professor Wiggins's contentions and shows how, even if those contentions are accurate, Google's concealment of RPO, by itself, was deceptive towards advertisers.²¹⁵ But that concealment was not all that Google did; Google explicitly suggested that bidders continue to act in a now-suboptimal way after announcing RPO.²¹⁶ Combined with Google's attempts to conceal RPO, this created deception for the duration of RPO's existence.²¹⁷

98. Taken together, Dr. Weinberg explains that these and other acts affected the entirety of Google's display advertising ecosystem.²¹⁸ This deception arose because of the lack of disclosure, the deceptive misrepresentations about the conducts, the deceptive mechanics that were used across conducts, and the conduct-specific acts and results, like the fact that the entire DRSv2 program generated no additional revenue for Google unless they deceived some advertisers into bidding in the dynamic region (a suboptimal behavior), and that RPO ran a significant risk of

²¹⁰ Weinberg Rebuttal Report, §IV.D; Interview with Dr. Matthew Weinberg, September 8, 2024.

²¹¹ Weinberg Rebuttal Report, §IV.D; Interview with Dr. Matthew Weinberg, September 8, 2024.

²¹² Weinberg Rebuttal Report, §IV.E; Interview with Dr. Matthew Weinberg, September 8, 2024.

²¹³ Weinberg Rebuttal Report, §IV.E; Interview with Dr. Matthew Weinberg, September 8, 2024.

²¹⁴ Weinberg Rebuttal Report, §IV.E; Interview with Dr. Matthew Weinberg, September 8, 2024.

²¹⁵ Weinberg Rebuttal Report, §IV.E; Interview with Dr. Matthew Weinberg, September 8, 2024.

²¹⁶ Weinberg Rebuttal Report, §IV.E; Interview with Dr. Matthew Weinberg, September 8, 2024.

²¹⁷ Weinberg Rebuttal Report, §IV.E; *see also* ¶82; Interview with Dr. Matthew Weinberg, September 8, 2024.

²¹⁸ *See* Weinberg Rebuttal Report, §IV.B, §IV.G; Interview with Dr. Matthew Weinberg, September 8, 2024.

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inducing hyper-aggressive bid-shading unless Google deceived some advertisers to ignore the impact of their current bids on future reserves.²¹⁹

99. Dr. Weinberg finds that in many cases Google took these actions with intent to deceive.²²⁰

100. Dr. Weinberg explains that these deceptions allowed Google to recruit participants to its ecosystem with the allure of simplicity.²²¹

101. Because of all this, Dr. Weinberg found that Google's deceptive behavior is pervasive and systemic, that it is not limited to the deceptive conducts, and that Google deceived participants to join its display advertising ecosystem in the first place by marketing simplicity.²²²

102. I also understand that Dr. Weinberg explained that Google's deceptive ecosystem influenced all auctions during the relevant period.²²³ This is based on his view that some participants would not even be in Google's ecosystem (even if they were not directly affected by a conduct) but for Google's deceptions.²²⁴

103. Additionally, I understand that Dr. Weinberg specifically addresses Google's claim that it was running a truthful second-price auction.²²⁵ Dr. Weinberg explains that, even though Google claimed to run a truthful second-price auction until 2019, due to Project Bernanke, DRSv1/v2, and RPO, it was actually not optimal for advertisers to truthfully bid their values.²²⁶ Because it was not optimal to bid truthfully, Google was acting deceptively and not running a truthful second-price auction.²²⁷ Dr. Weinberg opines that this deception touched all parts of

²¹⁹ Weinberg Rebuttal Report, §IV; Interview with Dr. Matthew Weinberg, September 8, 2024.

²²⁰ Weinberg Rebuttal Report, §IV.B; Interview with Dr. Matthew Weinberg, September 8, 2024.

²²¹ Weinberg Rebuttal Report, §IV.B; Interview with Dr. Matthew Weinberg, September 8, 2024.

²²² Weinberg Rebuttal Report, §IV.B; Interview with Dr. Matthew Weinberg, September 8, 2024.

²²³ See Weinberg Rebuttal Report, §IV.G; Interview with Dr. Matthew Weinberg, September 8, 2024.

²²⁴ Weinberg Rebuttal Report, §IV.G; Interview with Dr. Matthew Weinberg, September 8, 2024.

²²⁵ Weinberg Rebuttal Report, §IV.B; Interview with Dr. Matthew Weinberg, September 8, 2024.

²²⁶ Weinberg Rebuttal Report, §IV.B; Interview with Dr. Matthew Weinberg, September 8, 2024.

²²⁷ See Weinberg Rebuttal Report, §IV.B; Interview with Dr. Matthew Weinberg, September 8, 2024.

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Google's display advertising ecosystem, including even advertisers' decision to join the ecosystem in the first place.²²⁸

b. A Query's Origination Location is Not the Only Relevant Geographic Metric

104. Professor Wiggins argues that I should have limited my DTPA violation count to those Open Auction transactions involving U.S. users [REDACTED]

[REDACTED].²²⁹ First of all, according to Google's own description of the AdX data produced, the AdX submission represents [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] The individual who initiates a query (also called an ad request) by visiting a website is not the only participant in the AdX auction process, but rather acts as the catalyst for an auction to begin.²³² The publisher entities who sell, and advertiser entities who buy display advertising space, as well as intermediaries they may retain to help them with the process are direct participants in the auction, and have been deceived or misled by Google's misconducts. To ignore these direct participants' geography, as Professor Wiggins has done, is improper and untethered to the facts of this case.

105. Indeed, the location of *all* participants in AdX Open Auctions is relevant. If a user outside of the United States initiates a query, but either the advertiser or publisher entity (or their representatives) – all parties to the transaction – sit in the United States, that transaction should

²²⁸ Weinberg Rebuttal Report, §IV.B; §IV.G; Interview with Dr. Matthew Weinberg, September 8, 2024.

²²⁹ Wiggins Report, §IV.A.

²³⁰ Letter from David Pearl to Mark C. Mao and Walter Noss, Re: In re: Google Digital Advertising Antitrust Litigation, No. 1:21-md-03010 (PKC), May 30, 2023.

²³¹ Letter from David Pearl to Walter Noss, September 29, 2023, Appendix A.

²³² The AdTech Book describes the real time bidding process, listing as the first step that "a user visits a page (example.com)" and the second step as "the page contains ad slot with JavaScript code that requests content from the first-party ad server, known as an ad request." See The AdTech Book (Clearcode Services S.A., 2023), Chapter 9.

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count as a violation. Dr. Michael Baye, an expert for Google, acknowledges that all three parties are relevant, saying “Indirect network effects are important in this case because the alleged conduct centers on Google’s role as a multi-sided platform that matches *advertisers* with *publisher* impressions displayed to *internet users*.”²³³ Google itself acknowledges the importance of multiple parties to its display advertising business, as shown below in **Figure 3**, a screen shot from an internal document.²³⁴

FIGURE 3



106. The AdX auction data produced by Google, however, [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

²³³ Expert Report of Michael R. Baye, August 6, 2024, ¶43 (emphasis added).

²³⁴ GOOG-AT-MDL-002178277 at -277.

[REDACTED]

[REDACTED]

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[REDACTED]

[REDACTED]

107. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

108. I stand by my count of AdX Open Auction transactions “involving U.S. users” as represented by Google, without limiting, as Professor Wiggins does, [REDACTED]

237 [REDACTED]

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[REDACTED]

[REDACTED]

[REDACTED]

109.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

110.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

²³⁹ [REDACTED]

As stated above, I found that the state allocation figure presented in my Opening Report (28.9%) had incorrectly accounted for Puerto Rico's internet population. The adjusted state allocation figure is 28.7%. This adjustment also affects my original violation counts. In this section I use updated violation counts. I also provide updated violation counts based on this adjustment in the exhibits to this report.

²⁴⁰ [REDACTED]

[REDACTED]

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[REDACTED]

111. [REDACTED]

[REDACTED]

112. [REDACTED]

[REDACTED]

[REDACTED]

²⁴² GOOG-AT-MDL-DATA-000486626 to GOOG-AT-MDL-DATA-000488277; GOOG-AT-EDTX-DATA-001116099.

²⁴³ GOOG-AT-MDL-DATA-000488278 to GOOG-AT-MDL-DATA-000508815; GOOG-AT-EDTX-DATA-001116100.

[REDACTED]

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[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

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[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

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[REDACTED]

[REDACTED]

c. In-App Transactions Were Also Affected by Google's Conduct

116. Professor Wiggins argues that in-app transactions should not be included in my count of DTPA violations.²⁴⁷ As I discuss in detail above, however, there is ample evidence that in-app transactions through AdMob were also the target of Google's deceptive behavior.

117. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

²⁴⁷ Wiggins Report, §IV.B.

[REDACTED]

²⁴⁹ GOOG-NE-03730264 at -265.

²⁵⁰ GOOG-DOJ-15971437 at -454.

²⁵¹ GOOG-NE-13236353 at -379.

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[REDACTED]

[REDACTED]

[REDACTED]

d. Opinions Included in the Wiggins Report Regarding “Business-to-Business” Transactions and Statutes of Limitations Rest on Faulty Legal Assumptions, and he Improperly Removes Transactions That Are Still Subject to the Court’s Decision Making Process

118. The Wiggins Report argues that certain transactions should not be included in my DTPA violation count because: 1) certain Plaintiff States disallow recovery of DTPA penalties for business-to-business transactions²⁵³ and 2) certain Plaintiff States prevent DTPA violations from being alleged and penalties claimed after a certain time period.²⁵⁴ In doing so, he makes certain assumptions regarding application of the laws of various Plaintiff States. However, because it is my understanding that the Court has yet to rule on these legal issues, Professor Wiggins’ opinions are premature, and my report correctly includes violation counts associated with the Plaintiff States at issue.

119. First, the Wiggins Report states that I incorrectly include certain Plaintiff States in my report that cannot recover civil penalties for “business-to-business” transactions.²⁵⁵ Specifically, based on a motion to dismiss filed by Google, Professor Wiggins states that he “understand[s] that the deceptive trade practices acts of Arkansas, Idaho, Indiana, and Utah apply only to consumer transactions,” and thus my “transaction counts should not include transactions associated with those four states.”²⁵⁶ It is my understanding, however, that the Plaintiff States

²⁵² [REDACTED]

²⁵³ Wiggins Report, §IV.C.

²⁵⁴ Wiggins Report, §IV.F.

²⁵⁵ Wiggins Report, ¶125.

²⁵⁶ Wiggins Report, ¶125 (citing Google LLC’s Motion to Dismiss Pursuant to Rule 12(b)(6) at 25-26, *State of Texas, et al. v. Google LLC*, No. 4:20-cv-00957-SDJ (E.D. Tex. Feb. 8, 2024), ECF No. 224).

HIGHLY CONFIDENTIAL

addressed the issue in response to Google’s motion to dismiss, and specifically contend that the purported “consumer transactions” requirement does not bar DTPA claims in any of the aforementioned Plaintiff States.²⁵⁷ Because the Court has yet to determine whether these four states can recover civil penalties for “business-to-business” transactions, Professor Wiggins’ “understanding” of this legal issue is premature. In any event, as explained above, a reduction in the number of violations would not have a linear reduction in the total penalties. Accordingly, I maintain my opinions with respect to the violation counts for Arkansas, Idaho, Indiana, and Utah in this respect.²⁵⁸

120. Next, the Wiggins Report states that my violation counts do not account for the statutes of limitations of various Plaintiff States, and bases his opinion on information Google’s counsel provided him “on each Plaintiff State’s ‘critical date,’ which he says “is the date corresponding to the number of years prior to the filing date of Plaintiff States’ original complaint (December 16, 2020) that is equal to the length of that state’s statute of limitations for DTPA claims.”²⁵⁹ As with the legal issues regarding business-to-business transactions discussed above, it is my understanding that the Plaintiff States addressed the issue of the timeliness of their claims in response to Google’s motion to dismiss, specifically contending that the statute of limitations does not apply in enforcement actions in certain states, that Google misstates the statute of limitations for at least one state, Nevada,²⁶⁰ and that certain legal doctrines – including the discovery rule, the continuing violation doctrine, equitable tooling, and fraudulent concealment –

²⁵⁷ See Plaintiff States’ Response to Google LLC’s Motion to Dismiss Pursuant to Rule 12(b)(6), *State of Texas, et al. v. Google LLC*, No. 4:20-cv-00957-SDJ (E.D. Tex. Feb. 8, 2024), ECF No. 260, pp. 24-26.

²⁵⁸ Should the Court find that either Arkansas, Idaho, Indiana, or Utah are barred from recovering civil penalties on the basis of “business-to-business” transactions, I reserve the right to amend or supplement my opinions and violation counts.

²⁵⁹ Wiggins Report, ¶¶137-140.

²⁶⁰ I understand that, in his report, Professor Wiggins applies incorrect statutes of limitations for at least Montana, Kentucky, North Dakota, and Missouri. See Wiggins Report, ¶¶137-140.

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preclude adjudicating the timeliness of claims on a motion to dismiss.²⁶¹ Notwithstanding his assumptions about legal issues such as what constitutes a sufficient “disclosure,” when a DTPA claim accrues, or the whether certain doctrines apply to toll a statute of limitations, again, Professor Wiggins prematurely attempts to truncate my violation counts on statute of limitations grounds before the Court has ruled on the issue. Accordingly, Professor Wiggins assumptions and “understanding” of various Plaintiff States’ statutes of limitations do not change my opinions with respect to the violation counts for those states, which remain the same until such time the Court has ruled on the legal issue of the timeliness of those Plaintiff States’ claims.²⁶²

121. Moreover, I understand that in his report, Professor Wiggins applies incorrect statutes of limitation for numerous Plaintiff States. For example, Professor Wiggins states that the statute of limitations for DTPA violations in Montana, Kentucky, and North Dakota is 2 years,²⁶³ when in fact, I understand that the applicable statute of limitations is 5 years in Montana and Kentucky, and 4 years in North Dakota.²⁶⁴ Professor Wiggins also states that the applicable statute of limitations in Missouri is 3 years, when in fact, I understand that it is 5 years.²⁶⁵ In other words, I understand that Professor Wiggins improperly attempts to truncate my violation counts by assuming a shorter statutes of limitations than those that actually apply.

²⁶¹ See Plaintiff States’ Response to Google LLC’s Motion to Dismiss Pursuant to Rule 12(b)(6), *State of Texas, et al. v. Google LLC*, No. 4:20-cv-00957-SDJ (E.D. Tex. Feb. 8, 2024), ECF No. 260, at pp. 11-12, 15-16, 18, 20.

²⁶² Again, I reserve my right to amend or supplement my opinions and violation counts at such time the Court makes a determination regarding the statute of limitations of the Plaintiff States at issue.

²⁶³ Wiggins Report, Appendix E.

²⁶⁴ See KRS 413.120(2)-(3), 413.150 (Kentucky’s consumer protection act has a 5 year statute of limitations); Mont. Code Ann. § 27-2-211 (1)(c)(i) (prescribing an action seeking penalties as exempt from the 2 year statute of limitations period as penalties are a remedy provided only to the state) and Mont. Code Ann. § 27-2-231 (stating “an action for relief not otherwise provided for must be commenced within 5 years after the cause of action accrue”). I also understand that Mont. Code Ann. § 30-14-142 provides that under the MCPA penalties are reserved for actions brought by the state, while Mont. Code Ann. § 30-14-133 governs actions brought by individuals (and provides for compensatory, non-punitive, damages only).

²⁶⁵ See Mo. Rev. Stat. §516.120 (5 year statute of limitations).

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122. In short, I understand from counsel for Plaintiff States that these legal issues will ultimately be resolved by the Court.²⁶⁶ As these are legal issues, I do not provide an expert opinion, and I do not exclude these transactions from my counts of DTPA violations.

e. The Wiggins Report's Method for Allocating Transactions to the States is Flawed

123. The Wiggins Report presents an alternative method to allocate transaction counts to the Plaintiff States using advertiser billing location as provided by Google in a supplemental data production. Using this data, Professor Wiggins argues [REDACTED]

[REDACTED]

[REDACTED]

124. It is my opinion that Professor Wiggins' method suffers from several flaws. First, the customer billing state data produced by Google via several crosswalk files is not intended to match to the AdX data, the basis of my violation count analysis.²⁶⁹ Furthermore, the data provided by Google on customer billing state appears to be unreliable in some instances. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

²⁶⁶ See Plaintiff States' Response in Opposition to Google LLC's Motion to Dismiss Under Rule 12(b)(6), February 21, 2024, at §I.B, §II.G, responding to Google LLC's Motion for Dismissal Pursuant to Rule 12(b)(6), February 8, 2024.

²⁶⁷ Wiggins Report, §IV.D. See also Defendant Google LLC's Supplemental Response to Plaintiffs' Second Set of Interrogatories, May 3, 2024, at 4; GOOG-AT-EDTX-DATA-001116100; GOOG-AT-EDTX-DATA-001116099.

²⁶⁸ Wiggins Report, ¶128 footnote 283.

²⁶⁹ Defendant Google LLC's Supplemental Response to Plaintiffs' Second Set of Interrogatories, May 3, 2024.

²⁷⁰ DV360 Impressions - Allocated to States.csv; Google Ads Impressions - Allocated to States.csv; XPP(D) - Publisher State Collapse.csv.

²⁷¹ GOOG-AT-EDTX-DATA-001116099-6101.

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[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] This conflicting information calls into question the

reliability of the customer billing state information.

125. Even if I assume that the data on publisher and advertiser billing state is reliable, as I explain above, the geographic location of any auction participant is relevant and if any of the publisher, advertiser, or user is located in one of the Plaintiff States, that transaction should be counted as a potential violation for purposes of calculating an appropriate penalty. Using my estimation of state allocation based on internet users in each Plaintiff State (a proxy for users, or query origin) and Professor Wiggins' estimations of state allocation based on available customer billing locations, I can estimate a combined state allocation assuming that the Plaintiff State share of transactions related to each of these three parties is independent of one another, i.e. that if one participant is located in a Plaintiff State, that makes the location of the other two participants no more or less likely to be in a Plaintiff State. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

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[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

f. The Wiggins Report Inappropriately Cuts Off the Measurement Time Period for Transactions Impacted by RPO, DRSv2, Bernanke, and Equal Footing

126. The Wiggins Report claims that I have assumed that the alleged deception persisted longer than it did, stating that Google’s misconducts were disclosed prior to the end of my measurement periods for each of the alleged misconducts – either through public announcements or by virtue of the date of the complaint in this matter.²⁷⁴ Professor Wiggins argues that the RPO period should end at May 2016,²⁷⁵ the DRS period should end when DRSv1 ended at November 2016,²⁷⁶ the Bernanke period (including Alchemist) should end at October 2021,²⁷⁷ and the Equal Footing misconduct should end at October 2021.²⁷⁸ Professor Wiggins here argues for the relevancy of public announcements and elsewhere states that “Plaintiffs’ theory unduly emphasizes the role of announcements about optimization features....”²⁷⁹ At any rate, I understand that the Plaintiff States dispute the sufficiency of such alleged “disclosures” in alerting auction participants to Google’s deceptive and misleading misconduct,²⁸⁰ which I understand to be an issue for the trier of fact, and thus I do not alter my violation count based on this issue. If the trier of fact

²⁷⁴ Wiggins Report, §IV.E.

²⁷⁵ Wiggins Report, ¶130.

²⁷⁶ Wiggins Report, ¶¶130-135.

²⁷⁷ Wiggins Report, ¶¶133-134.

²⁷⁸ Wiggins Report, ¶135.

²⁷⁹ Wiggins Report, ¶40.

²⁸⁰ Fourth Amended Complaint in *State of Texas et al. vs. Google LLC*, In Re: Google Digital Advertising Antitrust Litigation, Civil Action No. 1:21-cv-06841-PKC, May 5, 2023, ¶526.

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determines that any measurement period should be altered, the information I have provided through my reports easily allows for such an adjustment to the violation count beginning or ending dates (which I explain above does not necessarily alter the appropriate penalty amount).

127. I understand that Dr. Weinberg also addresses this. First, I understand that he rebuts Professor Wiggins' contention because he explained that, generally, all auctions were affected during the relevant period because of Google's deceptive ecosystem.²⁸¹ I also understand that Dr. Weinberg addressed this contention by showing how specific conducts affected auctions during the relevant period and how they were not limited to only the periods that Professor Wiggins assumes.²⁸²

[REDACTED]

129. A key assumption underlying this analysis, however, is that the May 2016 purported "disclosure" related to RPO was sufficient to alert auction participants of the existence, mechanisms, and full extent of Google's manipulative RPO program and its effect on auction participants. As I note, however, the Plaintiffs States contend, among other things, that this deceptive, misleading, and partial "disclosure" was not sufficient. Indeed, internal Google documents indicate that Google itself understood that the May 2016 "disclosure" did not fully inform auction participants about RPO. For example, a May 2016 document discussing the not yet

²⁸¹ See Weinberg Rebuttal Report, §IV.G.; Interview with Dr. Matthew Weinberg, September 8, 2024.

²⁸² See Weinberg Rebuttal Report, §IV.D, §IV.E; Interview with Dr. Matthew Weinberg, September 8, 2024.

²⁸³ Wiggins Report, §VII.A.

²⁸⁴ Wiggins Report, ¶¶192, 195.

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released RPO blog post states that “the feature [RPO] is not directly visible externally” and notes that “buyers may observe changes... and we will monitor how they react.”²⁸⁵ Another internal document containing notes from a May 19, 2016 meeting states “RPO blogpost went live last week, will wait and see how it has been received before deciding on next blogpost with more RPO details.”²⁸⁶ The documents make it clear that the blog post did not contain full details on RPO and thus was not a sufficient disclosure, and as such, a test of this incomplete and insufficient blog post’s effect on prices is irrelevant.

g. The Wiggins Report Inappropriately Excludes Transactions That It Claims “Cannot be Affected” by Google’s Misconduct

130. The Wiggins Report argues that I have included “some transactions that could not have been affected by the alleged deception.”²⁸⁷ To support his argument, he contends that RPO and DRSv1 did not apply to Google Ads,²⁸⁸ that DRSv2 did not apply to Google Ads and DV360,²⁸⁹ and that Bernanke *only* applied to Google Ads.²⁹⁰ In doing so, the Wiggins Report ignores the fact that these deceptive programs ran in parallel for much of the period and that auction participants were either in the dark or being fed deceptive and misleading information as to the existence and mechanisms of these programs, including how they potentially interacted with one another. For example, in a Google email chain from 2017, Nitish Korula states “AdX helps itself at the cost of lower revenue to publishers – this is because they don’t know we do debt recollection from buyers / make buyers pay more than they otherwise would have. This is achieved in DRSv2 by non-truthful debt recollection, and *in tDRS potentially by bundling with (parts) of RPO.*”²⁹¹

²⁸⁵ GOOG-AT-MDL-001391101 at -104.

²⁸⁶ GOOG-AT-MDL-B-004435235 at -245.

²⁸⁷ Wiggins Report, §IV.G.

²⁸⁸ Wiggins Report, ¶¶146,149.

²⁸⁹ Wiggins Report, ¶154.

²⁹⁰ Wiggins Report, ¶157.

²⁹¹ GOOG-DOJ-14162332 at -332 (emphasis added).

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Further, I understand from Dr. Weinberg, as cited above, explained that all auctions during the relevant period were affected, regardless of whether the specific auction was directly touched by a conduct.²⁹²

131. Professor Wiggins goes on to argue that both Alchemist Bernanke²⁹³ and the Facebook NBA impacted zero transactions.²⁹⁴ Professor Wiggins argues that Alchemist was not inconsistent with Google's equal footing representations and that there is no reason to think advertisers and publishers would act differently if Alchemist were disclosed.²⁹⁵ I understand from Dr. Weinberg that Alchemist was deceptive because publishers would have set higher GDN reserves if they knew about the collusive aspect of Alchemist.²⁹⁶

132. Professor Wiggins argues that the Facebook NBA impacted zero transactions because [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

133. First off, Professor Wiggins [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

²⁹² See Weinberg Rebuttal Report, §IV.G; Interview with Dr. Matthew Weinberg, September 8, 2024.

²⁹³ Wiggins Report, ¶¶161-163.

²⁹⁴ Wiggins Report, ¶¶164-165.

²⁹⁵ Wiggins Report, ¶¶161-163.

²⁹⁶ Weinberg Rebuttal Report, §IV.C; Interview with Dr. Matthew Weinberg, September 8, 2024.

²⁹⁷ Wiggins Report, ¶¶164-165.

²⁹⁸ Wiggins Report, ¶165, footnote 349.

²⁹⁹ See Wiggins Report backup file "FAN_OA_OB".

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[REDACTED]

[REDACTED]

134. Second, even if I accept Professor Wiggins' contention that [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] I conclude that all transactions post-NBA should be considered to have been impacted, and should be counted as such, regardless of whether Facebook won any post-NBA transactions.

135. Specifically, I understand from Professor Weinberg that Professor Wiggins's logic is flawed [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] [REDACTED]

[REDACTED] [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] [REDACTED]

[REDACTED]

[REDACTED] [REDACTED]

[REDACTED]

³⁰¹ See Weinberg Rebuttal Report §IV.F; Interview with Dr. Matthew Weinberg, September 8, 2024.

³⁰² Weinberg Rebuttal Report §IV.F; Interview with Dr. Matthew Weinberg, September 8, 2024.

³⁰³ Weinberg Rebuttal Report §IV.F; Interview with Dr. Matthew Weinberg, September 8, 2024.

³⁰⁴ Weinberg Rebuttal Report §IV.F; Interview with Dr. Matthew Weinberg, September 8, 2024.

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[REDACTED]

[REDACTED]

136. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

137. In conclusion, I find that Professor Wiggins’ “corrections” to my DTPA violation count are unfounded and inappropriate given the record produced and the opinions provided by other experts in this matter. While I stand by my violation count as presented in my Opening Report, even if I make an adjustment based on data relating to the geography of the user (where the query originates), publisher entities, and advertiser entities involved in the AdX auction

³⁰⁵ See Weinberg Rebuttal Report §IV.F; Interview with Dr. Matthew Weinberg, September 8, 2024.

³⁰⁶ See Gans Report, § IX.B.

³⁰⁷ Gans Report, § IX.B; [REDACTED]

³⁰⁸ [REDACTED]

³⁰⁹ See Weinberg Rebuttal Report §IV.F; Interview with Dr. Matthew Weinberg, September 8, 2024.

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process, [REDACTED]
[REDACTED]

138. Furthermore, I note that I have taken a conservative approach to counting violations in this matter. As I explain above, there are multiple parties involved in each auction, and each of the parties was exposed to and misled by Google's deceptive misconducts. While I only count one violation per auction in my analysis, one could conceivably count multiple violations per auction – one for each party deceived. [REDACTED]
[REDACTED]

[REDACTED] This demonstrates that, contrary to Professor Wiggins' claim that my violation count is inflated, my approach is reasonable, and in fact conservative.

IV. RESPONSES TO SKINNER REPORT

A. The Skinner Report's Critiques of My Display Revenue and Profit Analyses Do Not Affect My Opinion

a. The Skinner Report's Critique Regarding Indirect Costs is Invalid and Irrelevant

139. The Skinner Report asserts that "certain indirect costs are, in many cases, not reflected (or fully reflected) in various internal DVAA P&Ls...which results in measures of operating profitability for DVAA that are overstated relative to those that would be obtained in P&Ls that reflect all relevant costs of the business."³¹¹ This criticism is invalid and/or irrelevant for a number of reasons.

140. First, the information on indirect costs that Professor Skinner is concerned about either does not exist or was not produced in discovery, despite the Plaintiff States' requests for same. As discussed above, and as declared by [REDACTED] May 24, 2024, the Plaintiff

³¹⁰ [REDACTED]

³¹¹ Skinner Report, ¶13.b.

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States requested financial data for the programs connected to the alleged misconducts.³¹² This data, if produced, would allow for a full picture of the direct and indirect costs realized by Google related to the alleged misconducts. However, [REDACTED] stated that Google could not respond to such a request due to the complexity and the amount of time the response would take.³¹³ The Skinner Report is silent on [REDACTED] declaration but insists that my analysis does not include the financial information that Google failed to produce. As such, he should not be allowed to now claim that the internal information Google *did* produce overstates DVAA profits. Moreover, Professor Skinner recognizes that the DVAA P&Ls Google has produced are merely “prepared to provide senior leaders in the display business with ‘visibility into the [DVAA] business economics’ to inform their business decisions.”³¹⁴ However, financial statements deemed sufficiently reliable and accurate to be used by Google’s senior leaders to understand the DVAA business’ economics and make their business decisions should be reliable for the purposes of estimating the DVAA business’ profitability, particularly in the absence of other information that can be used to perform such a quantification. Professor Skinner fails to explain why these financial statements should somehow be deemed unreliable for this purpose.

141. Second, even when indirect costs are identifiable, allocation schemes are often based on convenience rather than economic reality.³¹⁵ Therefore, further analysis must be undertaken to determine the true underlying economic cost drivers, including to determine whether these costs are incremental given the alleged misconduct.³¹⁶ Even though Professor Skinner presumably had or could have requested access to the preparers and users of these P&Ls at Google,

³¹² [REDACTED] Declaration, ¶3.

³¹³ [REDACTED] Declaration, ¶9.

³¹⁴ Skinner Report, ¶35.

³¹⁵ Boushie, Kristopher A., et al. *Calculating and Proving Damages*. Law Journal Press, 2011, §3.02[3] at 3-12.

³¹⁶ Boushie, Kristopher A., et al. *Calculating and Proving Damages*. Law Journal Press, 2011, §3.02[3] at 3-11, 3-12.

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he failed to identify or quantify a single category of the indirect costs he claims are not reflected (or fully reflected) in the DVAA P&Ls. He also failed to perform an investigation into the true underlying economic drivers of those costs. In fact, he failed to perform any analysis of the true economic drivers of the indirect costs that he claims are reflected on the DVAA P&Ls. If these costs were over allocated to the DVAA business based on convenience rather than economic reality, these financial statements may understate DVAA business profits.

142. Third, the level of precision that Professor Skinner asserts is required to quantify Google's profits from the DVAA segment is unnecessary to determining the amount of the statutory penalties. There is no requirement that penalties be limited to the amount of Google's profits from DVAA or incremental profits from the alleged misconduct. In fact, as explained in my reports, the amount of the penalty can and should exceed Google's incremental profits, particularly if it is to have any meaningful deterrent effect.³¹⁷

143. Finally, I note Professor Wiggins did not identify any indirect costs that were not reflected on Google's DVAA financials. As such, these indirect costs were irrelevant to Professor Wiggins' opinions.

b. The Skinner Report's Critique Regarding Display Revenue is Irrelevant

144. Like Professor Wiggins, Professor Skinner incorrectly argues that revenue and profit related to AdMob, AdSense for Content, and Campaign Manager should not be included in my analysis of Google's display revenue and profit.³¹⁸ As I explain above, I disagree with this assessment due to the interrelated nature of display advertising tools and evidence that Google's misconduct was targeted at in-app transactions as well as web transactions.

³¹⁷ See § III.C; Andrien Opening Report, § IV.F.

³¹⁸ Skinner Report, ¶49.

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145. Notably, in its interrogatory responses and internal documents, Google lists AdMob, AdSense for Content, and Campaign Manager as “Ad Tech Products” or “core” display products.³¹⁹ A Google internal document explains that the [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]³²⁰ This evidence that Google’s entire suite of display products work together and are leveraged as part of a larger strategy to dominate across the AdTech stack is relevant to my analysis as I consider not just the incremental profit of the specific auction programs implemented by Google, but also the larger benefit Google gained from its display business, as well as Google’s success overall.

146. Furthermore, as I explain above, there is ample evidence that in-app transactions were also the target of Google’s deceptive practices. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

³¹⁹ First Amended Responses and Objections to Plaintiffs’ Third Set of Interrogatories, May 24, 2024, p. 4; GOOG-AT-MDL-002189396 at -400.

³²⁰ GOOG-AT-MDL-001057220 at -247-248, -250.

³²¹ GOOG-NE-07249237 at -237.

³²² GOOG-NE-03730264 at -265.

³²³ GOOG-DOJ-15971437 at -454.

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[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] Once again,

this evidence supports that Google's deceptive behavior was also targeted at AdMob and so I include AdMob revenue in my calculations and when considering the benefit Google gained from its deceptive misconducts.

B. The Skinner Report Incorrectly Minimizes Google's Overall Financial Performance and Its Ability to Pay Penalties

147. Professor Skinner takes issue with a certain assertions in my report regarding Google's financial performance from 2013 to the present. Professor Skinner's critiques are focused along three lines, each of which are addressed, in turn, below:

a. The Overall Financial Performance of Alphabet and Google is Relevant for Purposes of Determining an Appropriate Civil Penalty

148. Professor Skinner takes issue with my analysis of the "financial performance of Alphabet and Google as a whole."³²⁶ Professor Skinner suggests that "any analysis that measures and reflects the performance of Google's advertising business in its entirety is overinclusive, in that it includes revenue and operating profit for products not at issue in this matter."³²⁷ However, Professor Skinner proceeds from a flawed premise, that "only certain products within DVAA, which itself is only a portion of Google's advertising business, are at issue in this matter."³²⁸

³²⁴ GOOG-NE-13236353 at -379.

³²⁵ GOOG-DOJ-AT-02218994 at -996.

³²⁶ Skinner Report, ¶14.

³²⁷ Skinner Report, ¶59.

³²⁸ Skinner Report, ¶59.

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149. Rather, as discussed in greater detail *supra*, the products “at issue” in this matter are merely part of the interconnected misconducts which provide both direct and indirect benefits to Google, in service of Google’s overall strategy. These misconducts enabled Google to engage in anticompetitive conduct and to build and maintain market share across the display advertising industry.³²⁹

150. In order to deter future violations, any penalty assessed against Google must, *at a minimum*, eliminate Google’s financial incentive to engage in the alleged misconduct. As noted *infra* (see paragraph 36), the economic literature is clear that a penalty to deter misconduct must consider the financial performance of the offender. Put another way, the penalty should have a sufficiently meaningful impact on Google’s financial position to deter future violations. It should also deter other potential offenders from similar misconduct. Given Google’s extraordinary financial performance over the relevant period (see discussion, *infra*), the appropriate way to determine an appropriate penalty is via reference to the financial performance of Alphabet and Google as a whole.

b. Google’s Financial Performance From 2013 to Present Has Been Extraordinary

151. The Skinner Report states that I fail to provide any basis for my assessment that Google’s financial performance during the relevant period was “extraordinary,” or why such performance is “informative or relevant” to my opinions.³³⁰ He is wrong on both points, and seemingly acknowledges as much when he goes on to state “his basis for this claim largely appears to rest on a comparison of certain financial measures for Alphabet to the average for public companies that are represented in the S&P500 and Nasdaq Composite indices.”³³¹

³²⁹ See for example, Gans Report, § V.C and § V.D.

³³⁰ Skinner Report, ¶64.

³³¹ Skinner Report, ¶64.

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152. It is common to use publicly available data and ratios in financial analysis in the context of litigation, and is in fact one of the skills required of a financial expert.³³² The expert's role in assessing punitive damages (or here, financial penalties) includes "present[ing] information that will help a trier of fact show the defendant's financial position, the effects of possible punitive awards, and other information deemed relevant to the choice of an appropriate award to help a jury."³³³ In particular, it is important to analyze liquidity in order to determine an entity's ability to pay a penalty, such that the penalty acts as a deterrent but would not force liquidation of assets crucial to ongoing operations.³³⁴

153. My analysis of Google's profitability during the relevant time period utilizes publicly available data, financial metrics, and ratios. These measures, including earnings per share (EPS), earnings before interest, taxes, depreciation, and amortization (EBITDA), and net income margin, are standard measures utilized by financial analysts to assess profitability, and are even reported by Google in its own 10-K reports.³³⁵

154. Moreover, comparison of the financial metrics of a subject entity to market indices, such as the S&P 500 and Nasdaq Composite, is a common, well-accepted method of measuring the performance of a given company relative to its peers. The S&P 500 and Nasdaq Composite are two of the three most-followed stock market indices in the United States. The S&P 500 is a market-capitalization weighted index of 500 of the largest companies traded on either the New York Stock Exchange, Nasdaq, or the CBOE Options Exchange.³³⁶ The Nasdaq Composite Index is a capitalization-weighted index of more than 2,500 stocks listed on the Nasdaq stock

³³² *Litigation Services Handbook, Sixth Edition*, Chapter 2, p. 8, 2.3.a.

³³³ *Litigation Services Handbook, Sixth Edition*, Chapter 17, p. 3.

³³⁴ *Litigation Services Handbook, Sixth Edition*, Chapter 17, p. 5.

³³⁵ See, for example, Alphabet 10-K, 2021.

³³⁶ "The S&P 500: The Index You Need to Know," Investopedia, available at <https://www.investopedia.com/articles/investing/090414/sp-500-index-you-need-know.asp>, accessed 8/24/2024.

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exchange.³³⁷ The Nasdaq Composite is heavily weighted toward the information technology sector.³³⁸ Professor Skinner questions whether these indices serve as relevant benchmarks for assessing the performance of Alphabet/Google.³³⁹ In so doing, Professor Skinner fails to recognize that the broad-based nature of these indices make them the ideal benchmarks for the company.

155. As noted in my initial report, Google's stock has outperformed both indices. An indication of Google's success is provided by the fact that it has accumulated such a significant amount of cash, cash equivalents and short-term marketable securities that during its 2024 Q1 Earnings Call on April 25, 2024, it announced that it will "be adding a quarterly dividend of \$0.20 per share to [its] capital return program as well as a new \$70 billion authorization in share repurchases."³⁴⁰ The market reacted positively to this news as the company's Class A shares rose by 10.2%, the largest single-day gain since 2015.³⁴¹ Google's market cap increased from \$1.95 trillion to \$2.14 trillion, making it just one of four U.S. companies with a market cap of over \$2 trillion at that time.³⁴²

156. Similarly, Google's stock price has grown from approximately \$18.08 per share as of January 2, 2013 to \$150.92 per share as of September 6, 2024, representing cumulative growth of 734.7% and an annual return of approximately 19.9%.³⁴³ This is 2.72 times the growth of the S&P 500 and 1.68 times the growth of the Nasdaq Composite over the same period.³⁴⁴

³³⁷ "What Is The Nasdaq Composite? How Does It Work?" Forbes, available at <https://www.forbes.com/advisor/investing/what-is-the-nasdaq-composite/>, accessed 9/9/2024. .

³³⁸ "What Does the Nasdaq Composite Index Measure?" Investopedia, available at <https://www.investopedia.com/terms/n/nasdaqcompositeindex.asp>, accessed 8/24/2024.

³³⁹ Skinner Report, ¶64.

³⁴⁰ Alphabet Inc., Q1 2024 Earnings Call, Apr 25, 2024.

³⁴¹ Bloomberg.

³⁴² S&P Capital IQ.

³⁴³ S&P Capital IQ.

³⁴⁴ The S&P 500 (SPX) and the Nasdaq Composite (COMP) have grown 269.8% and 436.3% respectively since the first trading day of 2013. S&P Capital IQ.

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157. Google, founded in 1998, is now the fourth largest company in the world as measured by market capitalization. To place this into context, Google alone has a larger market capitalization than JPMorgan Chase, Johnson & Johnson, Pepsico, IBM, Pfizer, Disney, and Citigroup combined.³⁴⁵

158. By nearly any measure, Google's financial performance from 2013 to present has been "extraordinary" as that term is commonly understood.

c. Comparison of Google Financial Performance to Relevant Market Indices

159. Professor Skinner expands upon his notion that Google's financial performance is irrelevant to my conclusions by questioning whether "the stock market performance of the collection of companies represented in these indices-which among others, include manufacturers, banks, retailers, and energy companies-serves as a relevant benchmark for assessing the performance of Alphabet."³⁴⁶

160. Professor Skinner argues that stock price and market capitalization are forward-looking and would not be germane to Google's misconduct.³⁴⁷ However, Google itself (both as a standalone entity and under parent company Alphabet) uses stock market returns as a benchmark for historical performance in its annual 10-K reports.³⁴⁸ Throughout the relevant period, Google's 10-Ks include analysis of the return a stockholder would receive if \$100 was invested in Google (or Alphabet) five years previous, as compared to the same investment in indices including the S&P 500 and Nasdaq, as illustrated in **Figure 4** and **Figure 5** below:³⁴⁹

³⁴⁵ S&P Capital IQ.

³⁴⁶ Skinner Report, ¶64.

³⁴⁷ Skinner Report, ¶64.

³⁴⁸ See, for example Alphabet 10-K, 2021; Google 10-K 2014.

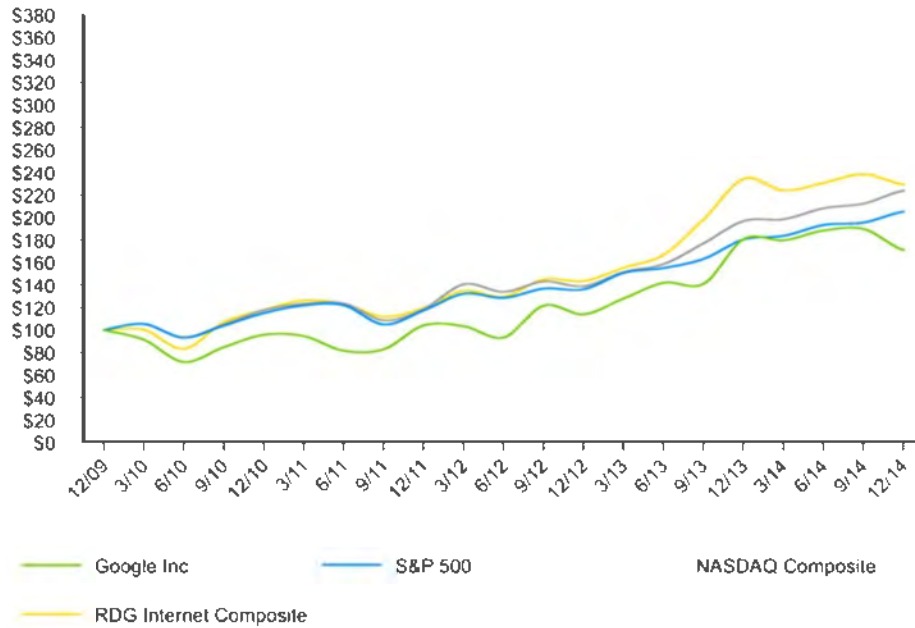
³⁴⁹ See, for example Alphabet 10-K, 2021; Google 10-K 2014.

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FIGURE 4

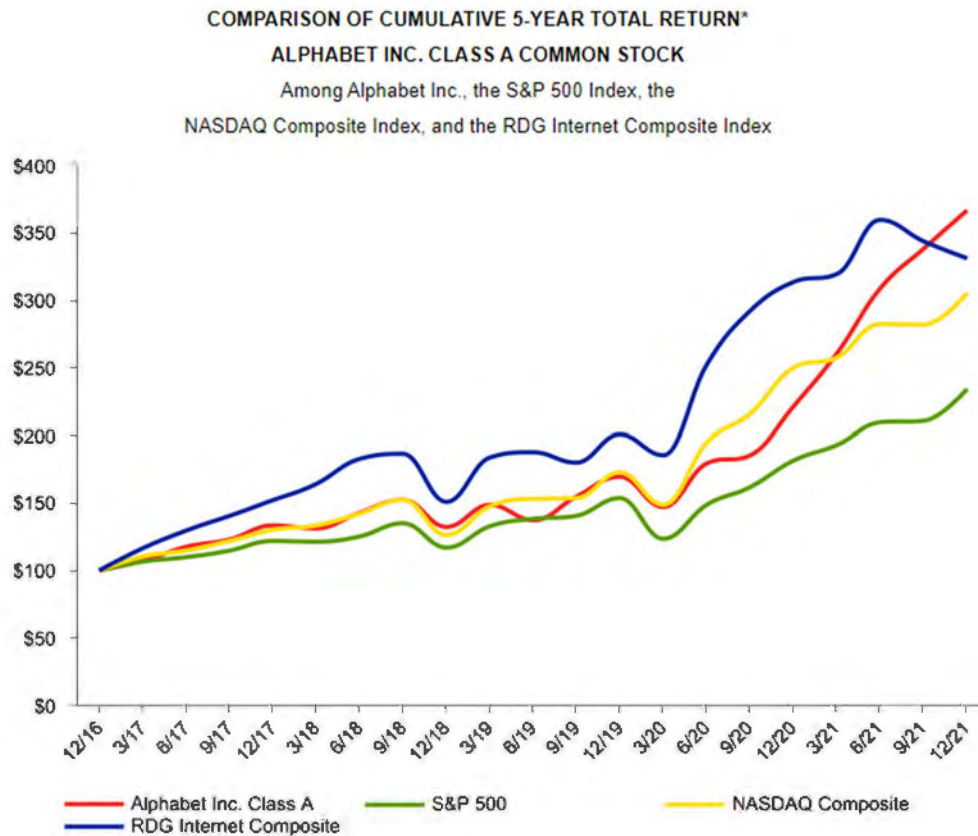
COMPARISON OF 5 YEAR CUMULATIVE TOTAL RETURN*

Among Google Inc., the S&P 500 Index, the
NASDAQ Composite Index, and the RDG Internet Composite Index



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FIGURE 5



161. If Professor Skinner is aware that Google looks to market indices for comparative purposes in their 10-Ks, he is silent about it in his report. However, it is implausible that a comparison that Google itself makes in its 10-Ks would be inappropriate for use in the present litigation. Accordingly, Professor Skinner's criticism vis-à-vis use of these indices is without merit.

C. Updated DVAA P&L Information

162. Professor Skinner notes that the 2022 DVAA P&L I used in my Opening Report contained nine months of actual results and three months of forecast data.³⁵⁰ While the 2022 financials I relied on did not indicate that the actual results included forecast data, I have

³⁵⁰ Skinner Report, ¶55.

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determined based on further review that there is an updated 2022 DVAA P&L that includes 12 months of actual data.³⁵¹ As such, I have updated my 2022 DVAA financial summary, attached here as Updated Opening Report Exhibit 2.

163. Professor Skinner further critiques my analysis when he notes that I used 2022 DVAA P&L data as a proxy for 2023 and that I should have instead used Google's actual 2023 results.³⁵² In my Opening Report, I noted that "[s]ince P&L for 2023 is unavailable, 2023 P&L line item values are assumed to be equal to 2022."³⁵³ Given the updated financial information that I have now been provided, my updated 2023 DVAA financial summary is included in Updated Opening Report Exhibit 2.

164. While Professor Skinner did not have any observations about a need for me to update the 2021 DVAA P&L data, I observed in the latest financial documents that I received that some of the DVAA 2021 financial results changed from the latest P&L document I relied upon in my affirmative report.³⁵⁴ As such, I have updated my 2021 DVAA financial summary in Updated Opening Report Exhibit 2.

165. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] The updated 2013-2023

DVAA P&L is included in Updated Opening Report Exhibit 2.

³⁵¹ See GOOG-AT-MDL-C-000018044.

³⁵² Skinner Report, ¶56.

³⁵³ Andrien Opening Report, Exhibit 2.

³⁵⁴ See GOOG-AT-MDL-C-000018044.

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V. CONCLUSION

166. In summary, based upon the factors I have considered and the analyses I have performed, I conclude that the critiques presented in the Wiggins Report and the Skinner Report are unfounded and do not cause me to change my overarching conclusions regarding the amount of appropriate penalties due to Google's deceptive misconducts. I find that the appropriate amount of penalties should be no less than the lower bounds for total penalties as presented in my Opening Report, and a reasonable juror could decide that that the appropriate penalty may exceed the higher bounds for total penalties as presented in my Opening Report.

September 9, 2024



Jeffrey S. Andrien



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JEFFREY S. ANDRIEN

Senior Managing Director

EDUCATION

THE UNIVERSITY OF TEXAS AT AUSTIN, McCombs School of Business, Austin, TX
M.B.A.

THE UNIVERSITY OF TEXAS AT AUSTIN, Austin, TX
B.A., Economics

PRESENT POSITION

COHERENT ECONOMICS, Austin, TX.
Senior Managing Director, 2021–Present

PROFESSIONAL EXPERIENCE

THE CLARO GROUP, Austin, TX
Managing Director, 2013–2021

FINANCE SCHOLARS GROUP, Austin, TX
President, 2009–2013
Director, 2008–2009

CRA INTERNATIONAL
Vice President, 2007–2008

ERS GROUP
Principal, 2004–2007

LECG (and predecessor companies)
Senior Engagement Manager, 1998–2004

TEACHING EXPERIENCE

The University of Texas, McCombs School of Business – Lecturer in the Finance Department (Jan 2020 - present). Teaching the core undergraduate Business Finance course. Also teach applied graduate-level finance class.

Thammasat University, Masters-in-Marketing Program – Visiting Professor of Finance and Economics (2006 – 2018). Taught graduate-level course on Marketing Profitability and Intangible Asset Valuation. Member, MIM Admissions Committee.

The University of Texas, McCombs School of Business – Adjunct Professor of Marketing in the MBA Program (Spring 2012). Taught graduate course on managing a global enterprise.

The University of Texas School of Law - Guest Lecturer: Capital Budgeting and Valuation (January 31, 2011), Economics Damages (April 4, 2011).

Washington University in St. Louis, Olin School of Business – Visiting Lecturer (Summer 2008). Taught MBA course on Marketing Profitability and Intangible Asset Valuation.

Vanderbilt University, Owen School of Business – Guest Lecturer in EMBA Program: Brand Valuation (Fall 2008).

ASSOCIATIONS AND MEMBERSHIPS

Customer Experience Certificate Advisory Board, University of Houston, Bauer School of Business, Board Member 2020-2022

University of Texas MSF Advisory Board, McCombs School of Business, Board Member 2014-2021

Thammasat University Masters-in-Marketing (MIM) Admissions Committee 2012-2019

American Bar Association, Associate Member

American Intellectual Property Law Association, Member; Patent Damages Subcommittee, Member; Trademark Litigation Committee, Member.

Austin Intellectual Property Law Association, Member

International Trademark Association, Former Member

Rice University Career Advisory Board (Former Member)

Austin Youth Hockey Association (Former Board Member)

PUBLICATIONS AND PRESENTATIONS

“Lessons from the Trenches: Damages Experts,” CLE presentation and accompanying article for the Texas Bar Association’s Advanced Intellectual Property Law course (February 2019). Article co-authored with Chris Bakewell and Leisa Peschel.

"Patent Damages 101," coordinator and panelist for CLE presentation at the AIPLA's 2016 Annual Meeting (October 2016).

"U.S Shale Play Development," CLE presentation to Haynes Boone, Beck Redden, and K&L Gates (All done in 2015).

Valuation expert in mock trial at the *Forensic Finance: Better Bankruptcies Through Better Numbers* Conference in Austin, Texas on September 9, 2015.

"Brand Imperative: Protecting Your Most Valuable Asset" (with Benoit and Zerrillo), *The Future of Branding*, Sage Publications, 2016.

"The Four Stages of Lead Partner Relationship Development" (with Chris Paskach), *Claro Newsletter*, Summer 2015.

"The Evolution of Trademark Litigation Related to Keyword Searches" (with Prateek Shah), *Claro Newsletter*, Spring 2015.

"Protecting Intellectual Assets," Presentation at Singapore Management University, February 2015.

"Protecting an Asian Treasure," *Asian Management Insights*, Vol. 1 Issue 2, November 2014.

"Principles of Business Valuation," CLE presentation to Jones Day in 2015, Nixon Peabody in 2014, Brown McCarroll in 2007, AYL in 2007, and DYLA in 2007.

"Consumer-Based Conjoint Analysis," CLE presentation to Covington Burling, November, 2013.

"Brand Valuation," Presentation to the Leading Brands Club of Vietnam, Ho Chi Minh City, Vietnam, March 2010.

"Approaches to Brand Valuation in a Global Marketplace," Presentation at the American Intellectual Property Lawyer's Midwinter Meeting, Miami, FL, January 2009.

"Sub-Prime Crisis: How Did We Get Here and What Comes Next?" CLE Presentations to Vinson & Elkins, Winstead, Brown McCarroll, and Fulbright and Jaworski (all done in 2008).

"Working with Financial Experts," CLE presentation to Greenberg Traurig, 2007.

"Understanding Financial Statements," CLE presentation to Hunton and Williams, 2006.

“Lessons from the Trenches: Damages Experts,” panelist at the Texas Bar Association’s 32nd Annual Advanced Intellectual Property Law Course, Dallas, TX, February 2019. Co-authored article related to topic for the course materials.

Taught Brand Valuation seminar to employees of Universal Robina (Filipino food company), July 31, 2020.

TESTIMONY AND EXPERT REPORTS

Betsy Aubrey et al. v. DOBI Medical International, Inc., et al.

Civil Action No.: A-05-CA-1070-SS. Western District of Texas, Austin Division.

Issued Federal Rule 26 report and deposition testimony. 10b-5 Damages case. (2007)

Giddy Up, LLC v. Prism Graphics, Inc. et al.

Civil Action No.: 3:06-CV-0948-BECF. Northern District of Texas, Dallas Division. Issued Federal Rule 26 report and trial testimony related to intellectual property damages. (2007)

Marquis Furniture, Inc. v. Mathis Bros. Furniture Co., Inc., et al.

Case No. CIV-04-1604-F; USDC Western District of Oklahoma. Issued Federal Rule 26 report, Antitrust damages related to price discrimination. (2008)

CenterPoint Energy 2010 Rate Case

Public Utility Commission of Texas, Docket No. 38339. Issued written testimony, dated June 30, 2010 and testified at PUC hearing. Testimony related to cost of services. (2010)

Frank H. Migl, et al. v. Watson Pipe, Inc., et al.

Case No: 07-05-20634-cv; in the 25th Judicial District Court, Lavaca County, Texas. Issued written report, dated June 28, 2010 and testified at deposition. Testimony related to discount rate for damages calculation. (2010)

Stripes, LLC v. Carlson Restaurants Worldwide, Inc. et al.

Case No: 7:11-CV-00019, USDC Southern District of Texas, McAllen Division. Issued Federal Rule 26 Report, dated January 13, 2012 and testified in deposition. Damages related to trademark infringement. (2012)

Dynamis Therapeutics, Inc. v. Alberto Culver International, Inc.

Case No: 09-773-GMS, USDC District of Delaware. Issued Federal Rule 26 Report, dated April 9, 2012 and testified in deposition. Damages related to the alleged breach of contract of a licensing agreement. (2012)

Securities and Exchange Commission v. Oxford Investment Partners, LLC and Walter J. Clarke

File No: 3-14899, SEC Administrative proceeding. Issued valuation report, dated September 4, 2012. (2012)

Keurig, Inc. v. Sturm Foods, Inc.

Case No: 10-841-SLR-MPT, USDC District of Delaware. Issued Federal Rule 26 Reports, dated November 21, 2012 and December 14, 2012. Testified in deposition on December 19, 2012. Damages related to trademark infringement, trade dress infringement, false advertising and unfair competition. (2012)

Memory Lane, Inc. v. Classmates International, Inc., d/b/a Classmates, et al.

Case No: SACV-1100940-JST (MLGx), USDC Central District of California, Southern Division. Issued Federal Rule 26 Report, dated December 26, 2012. Deposed on April 19, 2013. Testified at trial on February 18, 2014. Testimony addressed liability and damages issues related to trademark infringement. (2012)

Bear Ranch, LLC v. Heartbrand Beef, Inc. American Akaushi Association, and Ronald Beeman

Case No: 6:12-cv-14, USDC Southern District of Texas, Victoria Division. Issued Federal Rule 26 reports on April 12, 2013 and November 22, 2013. Deposed on May 14, 2014 and testified at trial on May 27-28, 2014 and September 11, 2014. Valuation of cattle herd and damages related to breach of contract and fraud claims. (2013)

National Financial Partners Corp. v. Paycom Software, et al.

Civil Action No. 14-cv-7424, USDC Northern District of Illinois, Eastern Division. Issued Declaration in opposition of Plaintiff's Motion for Preliminary Injunction on April 20, 2015. Issue related to irreparable harm resulting from alleged trademark infringement. (2015)

Avnet, Inc. and BSP Software, LLC v. Motio, Inc.

Case No. 1:12-cv-02100, USDC Northern District of Illinois, Eastern Division. Issued Federal Rule 26 report on December 16, 2015 and a rebuttal report on February 10, 2016. Deposed on March 15 2016. Damages related to patent infringement in the software industry. (2015)

US Imaging, Inc. v. US Imaging Network, LLC et al.

Cause No. 2015-32810, District Court of Harris County, TX, 80th Judicial District. Filed report on January 11, 2016. Liability and Damages related to trademark infringement in the medical industry. (2016). Provided deposition testimony on October 25, 2016.

TinicumCapital Partners II, L.P., et al. v. Liberman Broadcasting, Inc. et al.

C.A No. 11902-VCL, Court of Chancery of the State of Delaware. Filed report on February 17, 2016 and rebuttal report on February 23, 2016. Deposed on February 28, 2016. Case involved valuing the expected outcomes of the FCC Incentive Spectrum Auction under different participatory strategies. Issues related to irreparable harm and business strategy. (2016)

United States of America v. Michael Marr et al.

Case No. CR-14-00580-PJH, US District Court, Northern District of California, Oakland Division. Filed declaration on March 17, 2016. Case involved analyzing foreclosure

auction results to determine if there was evidence that the auction prices were suppressed as a result of collusive behavior by the defendants. (2016)

Linda Suchanek, et al. v. Sturm Foods Inc., and Treehouse Foods, Inc.

Case No. 3:11-cv-00565-NJR-PMF, US District Court, Southern District of Illinois. Filed Expert Report on April 28, 2016. Deposed on May 24, 2016. Case involved analyzing damages issues in a class action lawsuit alleging false advertising in the single-serve instant and micro-ground coffee industry. (2016)

Surgiquist, Inc. v. Lexion Medical, LLC

Case No. 14-cv-0382-GMS, US District Court for the District of Delaware. Filed Expert Report on June 24, 2016. Case involved analyzing damages resulting from false and misleading advertising in the market for medical devices for laparoscopic surgery. Provided deposition testimony on November 3, 2016, and trial testimony on April 6, 2017.

Natural Dynamics, LLC. v. Calm Natural Limited, et al.

Case No. 14-cv-0382-GMS, US District Court for the Western District of Texas, Austin Division. Filed Expert Report on September 23, 2016. Case involved analyzing damages resulting from claims of trade secret misappropriation, breach of contract, and tortious interference in the market for nutraceuticals. Filed supplemental report on October 24, 2016, and a supplemental report on June 16, 2017. Provided deposition testimony on December 5, 2016.

David Weiner, et al. v. Ocwen Financial Corporation, et al.

Case No. 2:14-cv-02597-MCE-DB, US District Court for the Eastern District of California. Filed Expert Report regarding class certification on January 30, 2017 in a class action case that involved analyzing loan level data to determine fees paid by borrowers related to certain mortgage-related valuation services. Filed Rebuttal Expert Reports on April 5, 2017 and May 6, 2019. Filed a Damages Report on March 6, 2019. Provided deposition testimony on February 21, 2017 and on April 5, 2019.

Dina Andren et al. v. Alere, Inc., et al.

Case No. 3:16-cv-01255-GPC-NLS, US District Court for the Southern District of California. Filed Expert Report on June 21, 2017. Case involved class action damages related to claims of deceptive and misleading trade practices in the medical device industry.

Sphero Inc. v. Spin Master, LTD., et al.

Case No: 17-cv-5428, US District Court for the Southern District of New York. Filed Expert Declaration on July 18, 2017 pertaining to irreparable harm and balance of equities related to a preliminary injunction motion. Case involved claims of deceptive patent infringement in the consumer electronics market. Provided deposition testimony on August 17, 2017 and hearing testimony on August 23, 2017.

United States of America v. Jesse Roberts, III

Criminal No: 15-20-JWD-EWD, US District Court for the Middle District of Louisiana.

Testified at trial on August 8, 2017. Testimony pertained to analyses of securities trading records in an insider trading case.

Barbara Waldrup, et al v. Countrywide Financial Corporation, et al.

Case No.: 2:13-cv-08833-CAS(AGRx) consolidated with Case No.: 2:16-cv-4166

CAS(AGRx), US District Court for the Central District of California. Filed Expert report on August 28, 2017 and testified at deposition on September 22, 2017. Testimony pertained to class-wide damages resulting from claimed illegitimate appraisals for home mortgages.

Custopharm, Inc. v. Chemworth, Inc., et al.

Case No.: AU:15-CV-00841-RP, US District Court for the Western District of Texas,

Austin Division. Filed Expert report on October 17, 2017. Case involved breach of contract claims between two drug development companies. Supplemental report filed on January 10, 2018. Testified at trial on April 18, 2018.

Twin Rivers Engineering, Inc. v. Fieldpiece Instruments, Inc., et al.

Case No.: 2:16-cv-04502-MLH-MRW, US District Court for the Central District of

California. Filed Expert report on December 27, 2017. Case involved liability and damages assessments related to antitrust, Lanham Act, and patent infringement claims in the hand-held leak detector industry. Testified at trial on May 31, 2018.

RSL Holding, LLC et al. v. Gregory Smith, et al. AND Iberiabank v. US Rail Services, LLC, et al.

Cause No.: 2016-46164, 164th Judicial District of Harris County, Texas; and Cause No.: 2016-58070, 129th Judicial District of Harris County, Texas. Filed Expert Affidavit on February 5, 2018. Case involved valuation and damages assessments related to breach of contract and fraud claims in post-acquisition dispute.

Total Rod Concepts, Inc. v. Glasforms, Inc., et al.

Cause No.: 14-05-05365, in the District Court for the 410th Judicial District, Montgomery County, Texas. Filed Expert report on February 21, 2018, and provided deposition testimony on March 23, 2018. Case involved damages assessments related to breach of contract and misappropriation of trade secrets claims in the fiberglass sucker rod industry.

S&A Capital Partners, Inc. et al. v. JP Morgan Chase Bank, N.A., et al.

Case No.: 1:15-cv-00293-LTS-JCF, US District Court in the Southern District of New

York. Filed Expert report on July 9, 2018 and sur-rebuttal report on December 17, 2018. Case involved damages assessments related to breach of contract and fraud in the market for distressed residential mortgages. Testified at deposition on January 31, 2019.

Greg Friedlander, et al. v. John V. "Jack" McGary

Cause No.: D-1-GN-16-005169, in the District Court for the 261th Judicial District, Travis County, Texas. Filed Expert report on August 1, 2018. Case involved damages

assessments related to breach of fiduciary duty and fraud in the market for the booking of celebrity speakers. Testified at trial on January 17, 2019.

Likarish Enterprises, Inc. v. SkiHi Enterprises, Ltd.

Cause No.: CV-16-0910, in the District Court for the 397th Judicial District, Grayson County, Texas. Filed Expert report on August 7, 2018. Case involved damages assessments related to breach of contract, negligence, and breach of duty to perform in the alcoholic spirits market.

CVS Heath Corporation, et al. v. Vividus, LLC., et al.

AAA Case No. 01-14-0002-0801, American Arbitration Association. Filed Expert report on September 21, 2018. Case involved quantifying antitrust and commercial damages related to claims of collusion and breach of contract in the market for compounding pharmacies.

Sally Ann Reagan v. Ganesh Ramachandran Iyer and Morgan Stanley

FINRA Case No. 17-01985. Filed Expert report on October 10, 2018 and testified at the arbitration hearing on November 1, 2018. Case involved analyzing the riskiness of investments and assessing damages in an arbitration claiming an investor's funds were invested in unsuitable investments.

HEB Grocery Company, LP v. Todd Meagher, et al.

Civil Action No. 4:17-cv-02810, in the United States District Court of the Southern District of Texas, Houston Division. Issued Federal Rule 26 Report, dated November 2, 2018 and testified at deposition on December 19, 2018. Case involved valuing a start-up business and assessing damages associated with the Defendants' counterclaim of trademark bullying.

ExxonMobil, et al. v. Deutsche Telekom, et al.

2014 WIPO Arbitration Rules, CASE NO. WIPOA130218. Issued expert report on February 21, 2019 and a rebuttal report on April 11, 2019 in an International arbitration in London. The report addressed "negotiating damages" resulting from the alleged breach of a settlement agreement related to a prior trademark dispute.

Accelaron, LLC v. Dell, Inc.

Case Number 1:12-cv-04123, US District Court, Northern District of Georgia, Atlanta Division. Issued expert report on May 24, 2019 in a patent infringement dispute involving blade server technology. The report addressed reasonable royalty damages, as well as a critique of the Plaintiff's expert report. Testified at deposition on June 21, 2019. Testified at trial on September 16-17, 2021.

Christopher M. Beuchler, et al. v. James W. Thompson, et al.

Cause Number D-1-GN-17-005884, District Court of Travis County, Texas, 459th Judicial District. Issued preliminary expert report on July 11, 2019 in a business dispute involving open source firewall and router software. The report addressed damages related to claims of fraud, breach of fiduciary duty, and breach of contract, among others.

Vitol Americas Corp. v. Targa Channelview, LLC.

Cause Number 2018-90859, District Court of Harris County, Texas, 80th Judicial District. Filed an initial expert report on December 12, 2019 in a business dispute involving a splitter facility in Channelview, TX. Report quantified benefit of the bargain and restitutionary damages. Provided deposition testimony on January 31, 2020 and on May 12, 2020. Provided trial testimony on September 29, 2020.

Emily Sears, et al. v. Russell Road Food and Beverage, et al.

Case Number 2019-cv-01091, United States District Court for the District of Nevada. Filed an initial expert report on March 2, 2020 in a Lanham Act dispute involving alleged misappropriation and unauthorized publication of the image and likeness of models. Report addressed the likelihood of confusion and economic damages.

Twinwood Cattle Company, Inc. v. American Akaushi Association, et al.

Civil Action Number 18-DCV-250789, in the District Court of Fort Bend County, Texas, 458th Judicial District. Filed an initial expert report on May 7, 2020 in a breach of contract and fraud dispute involving specialized Japanese cattle. Report addressed economic damages. Supplemental report filed September, 18, 2020 and additional rebuttal report filed on March 16, 2021. Testified in deposition on July 8th, 2020 and April 23, 2021. Testified at court hearing on January 29, 2021 and at trial on July 15, 2021.

Jaymo's Sauces, LLC. v. The Wendy's Company

Case No.: 19-cv-1026, in the United States District Court for the Central District of Illinois. Filed an expert rebuttal report on October 23, 2020 in a trademark infringement case involving food products. Report addressed economic damages and unjust enrichment. Filed an affirmative expert damages report on January 29, 2021.

BNSF Railway Company, et al. v. Dynegy Midwest Generation, LLC.

AAA Case No.: 01-18-0001-3283, American Arbitration Association case. Filed an expert report on January 18, 2021 in a breach of contract case involving coal transportation to a power generation facility. Report addressed the issue of the appropriate discount rate for economic damages.

David Yoder and Yoder Naturals, LLC v. YGHR Sales, LLC et al.

Case No.: 8:18-cv-01983 DCC, in the United States District Court for the District of South Carolina, Anderson Division. Filed an expert report on January 22, 2021 in a trademark infringement case involving nutraceuticals. Report addressed the issue of likelihood of confusion. Testified at deposition on March 11, 2021.

In Re: WC South Congress Square, LLC Bankruptcy

Case No. 20-11107-tmd, in the United States Bankruptcy Court for the Western District of Texas, Austin Division. Issued expert report on April 9, 2021 related to the appropriate cram-down interest rate for the debtor's proposed plan of reorganization. Testified at the bankruptcy proceeding on April 15, 2021.

Mid-Atlantic Finance Co., Inc., v. Prime Asset LLC, et al.

Cause No. D-1-GN-19-000954, in the District Court of Travis County, Texas, 250th Judicial District. Case is related to a misappropriation of trade secrets claim in the subprime auto loan industry. Testified at hearing on April 12, 2021, issued expert report on October 5, 2022 and rebuttal expert report on November 21, 2022.

In Re: Residential Capital LLC, et al Bankruptcy

Case Number 12-12020-mg, in the United States Bankruptcy Court for the Southern District of New York. Issued expert report on August 6, 2021 related to a breach of contract claim in the mortgage lending industry. Testified in deposition on October 28, 2021

Daniel Fishbaugh v. Art Bulgadarian et al.

Case No.: 2:20-dv-01135-JWH-RAO in the United States District Court Central District of California Western Division. Issued expert report on September 17, 2021 related to damages incurred by the plaintiff related to numerous causes of action, including copyright infringement, promissory fraud, unfair competition, and breach of contract.

Surveying and Mapping, LLC v. Dustin E. Trousil, et al.

Cause No.: D-1-GN-20-001527 in the United States District Court of Travis County, Texas, 261st Judicial District. Issued preliminary expert report on November 5, 2021. My report addressed damages incurred by the plaintiff related to numerous causes of action, including breach of contract, tortious interference, and misappropriation of trade secrets. Issued an affidavit in the matter on December 12, 2022.

Mary Evans, et al. v. Enterprise Products Partners, LP, et al.

Cause No.: 2019-57694 in the District Court of Harris County Texas, 165th Judicial District. Issued expert report on November 19, 2021. The report addressed issues of class certification related to dispute involving pipelines installed in residential neighborhoods. Provided deposition testimony on February 16, 2022.

Phage Diagnostics, Inc. v. Corvium, Inc.

C.A. No. N19C-07-200-MMJ[CCLD] in the Superior Court in the State of Delaware. Issued expert declaration on December 29, 2021 in a post-acquisition dispute involving technologies that detect food-borne bacteria, such as listeria and salmonella. Expert Reports issued on May 20, 2022 and June 22, 2022. Deposition testimony provided on July 14, 2022 and trial testimony provided on October 25, 2022.

Leon A. Malca v. Rappi, Inc.; Sebastian Mejia

C.A. No. 2020-0152-MTZ in the Court of Chancery in the State of Delaware. Issued expert report on March 18, 2022 in a shareholder dispute. The report addressed the valuation of a minority interest of a privately held company in the food delivery industry. I issued a response report on April 1, 2022.

National Polypropylene Consultants v. Panatecvh Dervices, S.A.

Arbitration. No. 215208 in the London Court of International Arbitration.

Issued expert report on June 17, 2022 in a fraud and breach of contract case involving drag reducing agents for oil and gas transmission. The report addressed benefit-of-the-bargain damages. I provided deposition testimony on July 27, 2022 and testified at arbitration on August 25, 2022.

Textron Innovations, Inc. v. SZ DJI Technology Co., LTD., et al.

Case No. RG19001604 in the United States District Court for the Western District of Texas, Waco Division. Issued expert report on December 8, 2022 regarding patent damages in a case involving drone technology and a supplemental report on January 19, 2023. Provided deposition testimony on January 24, 2023 and trial testimony on April 18, 2023.

Joshua Chodniewicz, et al. v. Art.com, Inc., et al.

Civil Action No. 6:21-cv-740 in the Superior Court of the State of California, County of Alameda. Issued expert report on February 1, 2023 regarding issues related to WALMART's acquisition of Art.com, including valuations and other financial analyses. Provided deposition testimony on March 24, 2023.

Blue Bottle Coffee, LLC v. Hui Chuan Liao, et al.

Case No. 3:21-cv-06083-CRB in the United States District Court for the Northern District of California. Issued expert report on May 22, 2023 that addressed brands and branding. Provided deposition testimony on July 26, 2023.

Pecos River Exploration Holdings, LLC et al. v. MBL Pecos River Exploration, LLC, et al.

AAA Case No. 01-23-0000-4266. Issued damages report on June 19, 2023 involving the valuation of E&P assets in the Permian Basin. Testified at arbitration on July 14, 2023.

Milton 635 Gravois Road, LLC, et al. v. TRT Holdings, Inc., et al.

Cause number DC-21-11406 in the District Court 44th Judicial District, Dallas County, TX. Issued report on September 25, 2023 involving damages related to alleged fraud in the real estate industry.

Cloud49, LLC v. Rackspace Technology, Inc., et al.

Civil Action number 1:22-cv-229 in the United States District Court for the Western District of Texas, Austin Division. Issued report on September 25, 2023 involving damages related to bid-rigging in the cloud technology services industry.

Sectra Communications AB, et al. v. Absolute Software, Inc. et al.

Case number 2:22-cv-00353-RSM in the United States District Court for the Western District of Washington, Seattle Division. Issued report on December 21, 2023 involving patent damages in a case about mobile VPN technology. Issued rebuttal report on April 12, 2024.

Advanced Micro Devices, Inc. v. Polaris Innovations, LTD.

Civil Action Number 1:23-cv-00304-DAE in the United States District Court for the Western District of Texas, Waco Division. Issued damages report in a breach of contract

and tortious interference case involving contractual licensing relationship between a semiconductor manufacturer and a patent holding company. Report issued on January 15, 2024.

The State of Texas v. Google, Inc.

Cause Number 22-01-88230 in the District Court of Victoria County Texas, 377th Judicial District. Issued expert report on January 16, 2024 addressing Deceptive Trade Practices Act (DTPA) penalties related to alleged violations regarding Google's Location and Incognito mode settings. Issued a supplemental disclosure and provided deposition testimony on May 24, 2024.

Fractus, S.A. v. ADT, LLC d/b/a ADT Security Services

Civil Action Number 2:22-cv-412 in the United States District Court for the Eastern District of Texas, Marshall Division. Issued expert report on March 25, 2024 addressing patent infringement damages related to antennae technology. Provided deposition testimony on April 3, 2024

LifeScan, Inc. v. Jeffrey C. Smith, et al.

Civil Action Number 2:17-cv-5552-CCC-JSA in the United States District Court for the District of New Jersey. Issued Expert report on April 15, 2024 addressing damages related to an alleged fraudulent scheme to take advantage of separate insurance regimes for blood glucose test strip products. Provided deposition testimony on June 25, 2024.

Roche Diagnostic Corp. et al v. Jeffrey C. Smith, et al.

Civil Action Number 2:19-cv-08761-CCC-JSA in the United States District Court for the District of New Jersey. Issued Expert report on April 15, 2024 addressing damages related to an alleged fraudulent scheme to take advantage of separate insurance regimes for blood glucose test strip products. Provided deposition testimony on June 25, 2024.

The State of Texas, et al. v. Google, Inc.

Case No. 4:20-cv-00957 in the United State District Court for the Eastern District of Texas. Issued expert report on June 7, 2024 addressing Deceptive Trade Practices Act (DTPA) penalties related to alleged violations regarding Google's AdTech business.

REPRESENTATIVE CASES

ANTITRUST MATTERS

Performed liability analysis related to an electricity market manipulation claim.

Analyzed liability and assessed damages in a restraint of trade case in the market for HVAC leak detectors. The case also involves claims of patent infringement and Lanham Act violations.

Performed economic damages analyses for a generic pharmaceutical company that was allegedly kept from entering a specific antibiotic market by the branded company through fraudulently obtained patent protection.

Analyzed liability and assessed damages associated with an alleged Resale Price Maintenance Agreement in the “cosmeceutical” industry.

Calculated antitrust damages related to price discrimination and fraud claims in the wholesale home furniture industry.

Examined economic issues related to alleged tying arrangements practiced by a medical device company.

Performed economic analysis related to a Section I and II claim in the laboratory airflow control systems market.

Examined a tying and bundling claim in the television broadcasting industry. Determined economic damages suffered by purchasers of ammonium nitrate due to price fixing.

Performed liability and economic damages analyses, as well as litigation support for an international client accused of collusion in the vitamins industry.

Performed liability and economic damages analyses and litigation support for an international client accused of collusion in the amino acids industry.

CORPORATE RECOVERY

Determined “cram-down” interest rate for bankruptcy proceeding involving commercial real estate company.

Valued a hotel property in Hawaii that was involved in a bankruptcy proceeding.

Performed a fraudulent transfer and preference analysis of the pre-petition transactions to determine avoidability, valued corporate assets, assessed litigation alternatives for additional recoveries, and reviewed debtors’ proposed business plan.

Conducted individual practice assessments, market surveys, and damage estimates associated with the failure of a physicians practice management company.

Performed financial analyses related to the pre-petition financing and collateral position of a Chapter 11 telecommunications company.

Analyzed investor claims of legal malpractice to assess recovery possibilities. Also, performed various financial analyses to determine the feasibility of class certification.

INTELLECTUAL PROPERTY

Engaged to quantify economic damages in a patent infringement case involving power converters for computer equipment.

Retained to quantify damages in a patent infringement matter involving drone technology.

Retained to quantify economic damages in a misappropriation of trade secrets case in the sub-prime auto loan industry.

Engaged to address Lanham Act damages in a Lanham Act dispute involving consumer products companies that manufacture and distribute air freshener products.

Engaged to address likelihood of confusion and damages in a trademark infringement dispute involving remote controlled vehicles.

Engaged to quantify damages in a Lanham act case involving false and misleading advertising claims in the timeshare industry.

Engaged to quantify damages to a hospital system resulting from fraud and negligent marketing claims against opioid manufacturers and distributors.

Assessed liability and quantified damages in a misappropriation of trade secrets dispute between two drilling fluids services firms.

Retained by defense counsel to opine on patent infringement damages in a matter involving technology for blade servers.

Engaged by defense counsel to opine on liability and damages in a trademark and trade dress litigation between two companies that manufacture beverage tumblers.

Quantified damages and opined on certain liability issues in a false advertising case involving two medical device companies who manufacture products for laparoscopic surgery.

Engaged to quantify damages and opine on liability issues in a trademark infringement matter involving the health benefits management industry.

Analyzed and rebutted confusion and dilution surveys performed by defense experts in a trademark dispute between a large oil company and a world-renowned entertainment company.

Engaged by plaintiff's counsel to quantify patent infringement damages in the computer software industry.

Evaluated the Plaintiff's damages claim and offered affirmative damages opinions in a breach of contract case involving the licensing of patented technology in the cosmeceutical industry.

Engaged by counsel for the defense to evaluate trademark infringement damages in a dispute between an international restaurant chain and a regional convenience store chain.

Engaged by counsel for the defense to evaluate liability and damages in a trademark infringement suit involving an online nostalgia company.

Quantified trademark infringement and false advertising damages in a dispute between two food products companies.

Determine patent infringement damages in a matter involving computer hardware technology.

Calculated damages in a misappropriation of trade secrets case between two computer software firms.

Provided business strategy and licensing assistance to the owner of an Internet patent portfolio.

Determined damages in a patent infringement case involving two “nutraceuticals” companies.

Assessed reasonable royalty and lost profits claim involving baseball training product.

Assessed lost profits and diminution of business value claims involving a misappropriation of trade secrets dispute between a start-up biotechnology firm and a nationally renowned research institution.

Assessed the amount of reasonable royalties due to patent infringement involving two air-jet weaving machine patents. Critiqued lost profits and reasonable royalties claimed by plaintiff.

Determined the amount of reasonable royalties due to patent infringement in the prepaid wireless telecommunications industry.

Engaged by plaintiff to assess lost profits damages for a company in the cardiac rhythm management business. Developed lost profits damages model, critiqued lost profits claimed by defendant, assisted in preparing for expert deposition and trial, and prepared prejudgment interest model and affidavit.

Assessed the amount of reasonable royalties due to patent infringement involving a patent for pet snacks.

VALUATION AND DAMAGES

Retained to quantify damages in an unfair competition case involving a multinational technology conglomerate.

Quantify damages in a breach of contract case involving drag-reducing agents for the oil and gas industry.

Determined damages in a breach of contract case between healthcare technology company and an insurance syndicate.

Engaged by counsel for the defense to value an oil and gas exploration and production company.

Valued natural gas salt-domed storage facility.

Valued natural gas pipeline facility.

Quantified damages in an arbitration dispute involving two joint venture partners in a natural gas trading and marketing business.

Provided cost of services testimony in a PUC rate case.

Engaged by plaintiff's counsel to opine on economic damages in a case involving the resale of underperforming residential mortgages.

Prepared intellectual property valuation for a company in the neuro-marketing field. The valuation report was used for acquisition purposes.

Engaged by defense counsel to provide class certification and damages opinions in a class action case involving ground water contamination.

Quantified class-wide damages for a case involving credit card interchange fees.

Performed valuation of a biotechnology company engaged in a breach of contract dispute involving preclinical and Phase I pharmaceuticals.

Assessed damages associated with breach of a natural gas processing and purchase contract. Determined well connection costs, well deliverability, well capacity, and compression maximums. Also, analyzed gains to producers from gaming nominations to pipelines.

Calculated the termination payment for a portfolio of interest rate swaps determined based on the Loss method as defined in the 1992 International Swaps and Derivatives Association Master Agreement.

Performed class certification analyses for defendant in a large class action lawsuit involving an oil spill in the Gulf Coast region. Work involved analysis of medical class, the Seafood Compensation Program, Property Damages Class, and other Economic Damages Classes.

Analyzed issues pertaining to a large family enterprise involved in an estate tax examination.

Valued a herd of full-blood, Japanese cattle as part of a damages analysis in a fraud and breach of contract case.

Assessed damages in a breach of contract case involving life settlement policies.

Calculated damages resulting from the withholding of restricted securities in association with an acquisition of a Phase I/Phase II biotechnology firm.

Valued investment advisory business involved in an administrative proceeding with the Securities and Exchange Commission.

Performed damages and liability analyses on a litigation matter involving terminations of interest rate swaps.

Performed a variety of complex analyses on a securities matter involving a large mortgage origination company. Our work entailed quantifying gains from insider trading, as well as analyzing various liability issues.

Provided analysis regarding the appropriate discount rate to employ in a damages calculation involving a failed pipe casing.

Assessed damaged and valued minority interest of a spirits manufacturer related to a post-acquisition dispute.

Provided economic and financial analysis to a large bank involved in a dispute regarding the bank's involvement in a loan syndicate. The dispute was related to the cable television industry.

Calculated personal injury damages due to a small business owner resulting from an automobile accident.

Performed econometric and financial analyses for the defendants in a large, securities class action case involving initial public offerings.

Calculated damages in a large 10B-5 litigation involving a document management technology and service company.

Assessed the real property value of a Hawaiian hotel involved in a bankruptcy related dispute.

Engaged to provide damages analysis in a 10B-5 litigation involving a defunct broadband company.

Performed valuation of derivative financial instruments in an Enron-related criminal matter.

Quantified damages for defense counsel in a large securities class action case involving a bankrupt energy company.

Calculated damages in a dispute involving nitrogen production units (NPU's) in the oil field services industry.

Performed damages analysis in a 10B-5 litigation involving a medical device firm.

Engaged by counsel for the defense to provide liability and damages opinions relative to a securities litigation involving derivative financial instruments.

Assessed mutual fund trading activities of alleged market timers and late traders for the SEC.

Performed analyses for the state of Texas to assist in analyzing proposed legislation regarding investment disclosure requirements.

Assessed damages due to a large airplane engine manufacturer resulting from faulty equipment produced by a sub-contractor.

Performed a business valuation of a hydroxides manufacturing unit for a multinational client in a breach of contract case.

Conducted damages analysis related to a post-merger dispute between a large express mail company and two of its European affiliates.

Conducted damage analyses related to alleged 10B5 securities violations by a large waste industry company.

Assessed stock and future earn out damages associated with claims of fraud and misrepresentations related to an acquisition of consumer car care products.

Assessed damages claim in a breach of contract case involving two parking services companies.

OTHER MATTERS

Engaged by major international company to perform econometric analyses on the Global Crude Oil Market.

Engaged by mortgage servicing company to determine its ability to pay fines levied against it by the Consumer Financial Protection Bureau (CFPB). The case related to illegal foreclosure practices.

Retained by the SEC in an administrative matter against the executives of a major mortgage servicing company. The engagement entailed evaluating loans for compliance with reps and warranties, as well as determining the gains made by the executives resulting from incorrect disclosures.

Performed analysis regarding the quality of due diligence conducted in a transaction involving a major international restaurant company. The plaintiff, a joint venture partner responsible for West Coast franchise expansion, sued the restaurant chain and its acquirers for breach of contract and fraud.

Performed analyses regarding corporate governance issues for a large accounting firm involved in a litigation case that alleged accounting malpractice.

Retained by a trustee for a mortgage-backed securities structured trust to determine whether mortgage loans in a trust complied with the representations and warranties made about the loans in loan purchase agreements.

Assisted a large national insurance carrier in the divestiture of its healthcare practice.

Performed Y2K readiness assessments on behalf of state insurance regulatory boards.

Managed an engagement to eliminate a large claims backlog for an insolvent insurance carrier.

Retained by trustee to examine a mortgage origination company's policies and practices in the areas of mortgage loan underwriting and mortgage loan sales, as well as its policies and practices related to quality control and quality assurance in these areas.

Helped the City of Pittsburgh value its parking assets and evaluate various alternatives for monetizing them to fund the city's pension shortfall.

Retained by GSE (Government Sponsored Entity) to evaluate its risk management policies and procedures related to its mortgage purchasing activities. In the case, the GSE sued a Big 4 accounting firm for failing to detect fraud at a now defunct mortgage bank during its audits.

Retained by Plaintiff counsel to evaluate class-certification issues in multiple mortgage-backed securities cases.

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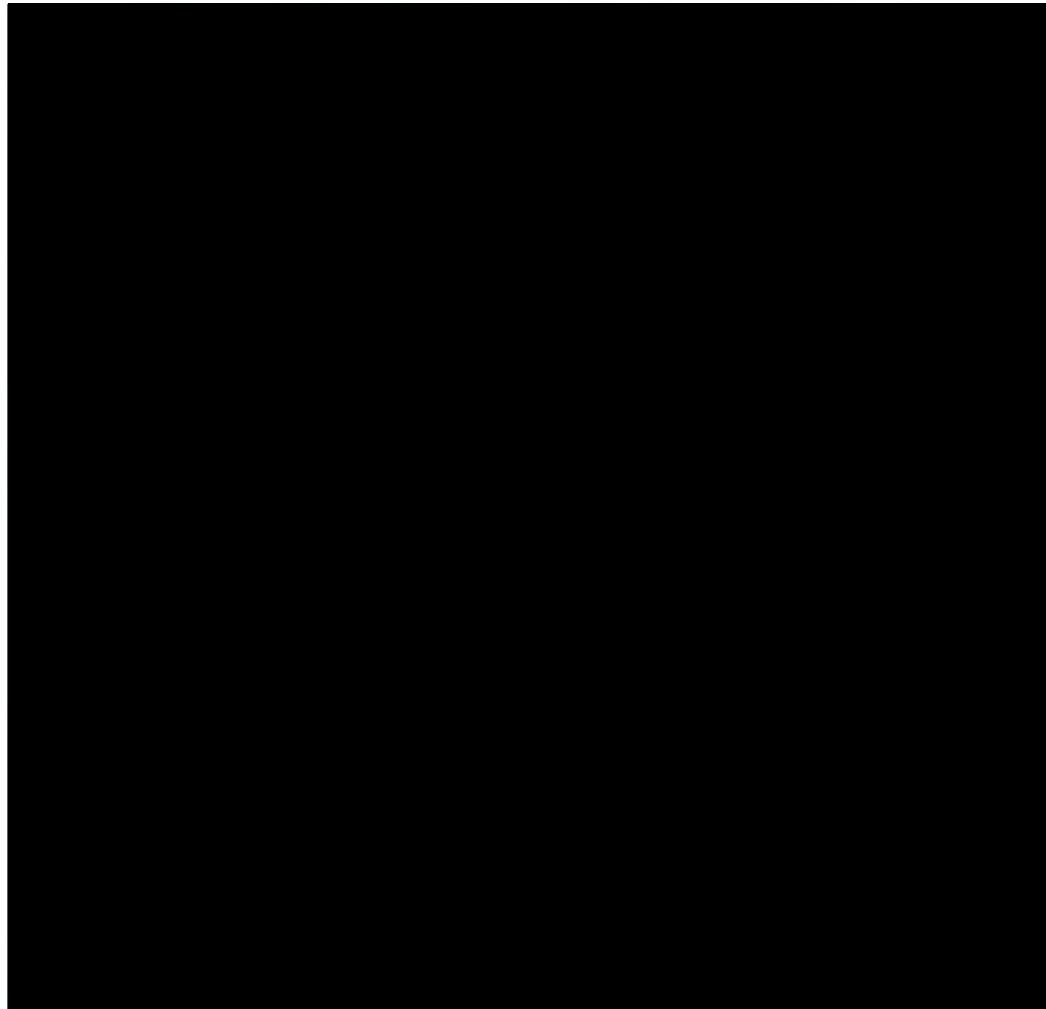
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All materials cited in this report and exhibits.

By incorporation, all materials listed in Appendix 2 of the Andrien Report.

I have been provided access to the document database as well as all depositions related to this litigation.



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REPORT EXHIBIT 1

**Ratio of State Internet Population to U.S. Internet Population
2013 - 2023**

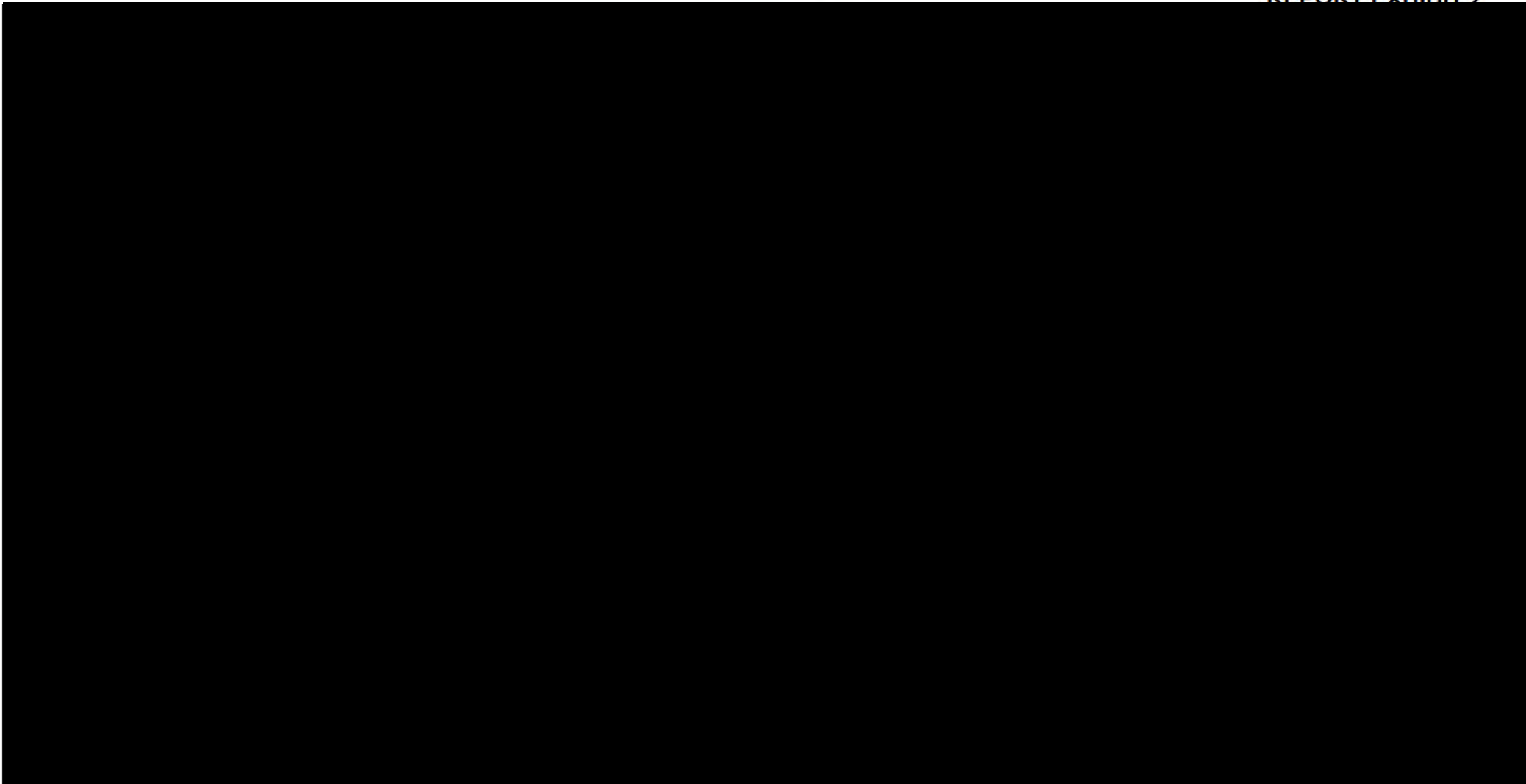
State	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Alaska	0.22%	0.23%	0.24%	0.24%	0.23%	0.23%	0.23%	0.22%	0.22%	0.22%	0.22%
Arkansas	0.79%	0.79%	0.78%	0.80%	0.80%	0.83%	0.84%	0.82%	0.86%	0.86%	0.86%
Florida	5.65%	5.72%	6.32%	6.31%	6.37%	6.47%	6.52%	6.48%	6.54%	6.67%	6.67%
Idaho	0.51%	0.50%	0.51%	0.51%	0.52%	0.54%	0.55%	0.56%	0.57%	0.58%	0.58%
Indiana	2.02%	2.01%	1.96%	1.99%	1.98%	1.98%	1.98%	1.98%	2.02%	2.01%	2.01%
Kentucky	1.30%	1.29%	1.27%	1.30%	1.28%	1.30%	1.30%	1.29%	1.30%	1.31%	1.31%
Louisiana	1.29%	1.26%	1.30%	1.31%	1.29%	1.30%	1.31%	1.29%	1.31%	1.28%	1.28%
Mississippi	0.75%	0.75%	0.74%	0.80%	0.80%	0.81%	0.80%	0.79%	0.80%	0.81%	0.81%
Missouri	1.82%	1.81%	1.80%	1.82%	1.82%	1.81%	1.82%	1.80%	1.81%	1.81%	1.81%
Montana	0.30%	0.30%	0.31%	0.31%	0.31%	0.32%	0.32%	0.32%	0.33%	0.33%	0.33%
Nevada	0.87%	0.86%	0.91%	0.89%	0.90%	0.93%	0.93%	0.93%	0.94%	0.95%	0.95%
North Dakota	0.23%	0.23%	0.23%	0.23%	0.22%	0.22%	0.22%	0.23%	0.23%	0.23%	0.23%
Puerto Rico	0.66%	0.65%	0.73%	0.77%	0.75%	0.72%	0.77%	0.75%	0.84%	0.86%	0.86%
South Carolina	1.32%	1.32%	1.38%	1.44%	1.46%	1.48%	1.49%	1.46%	1.51%	1.54%	1.54%
South Dakota	0.27%	0.26%	0.26%	0.26%	0.26%	0.26%	0.26%	0.26%	0.26%	0.27%	0.27%
Texas	8.32%	8.34%	8.22%	8.46%	8.60%	8.63%	8.74%	8.73%	8.82%	8.97%	8.97%
Utah	1.02%	1.03%	1.00%	0.98%	1.00%	1.01%	1.02%	1.03%	1.03%	1.04%	1.04%
Total	27.35%	27.36%	27.96%	28.42%	28.60%	28.84%	29.12%	28.95%	29.38%	29.73%	29.73%

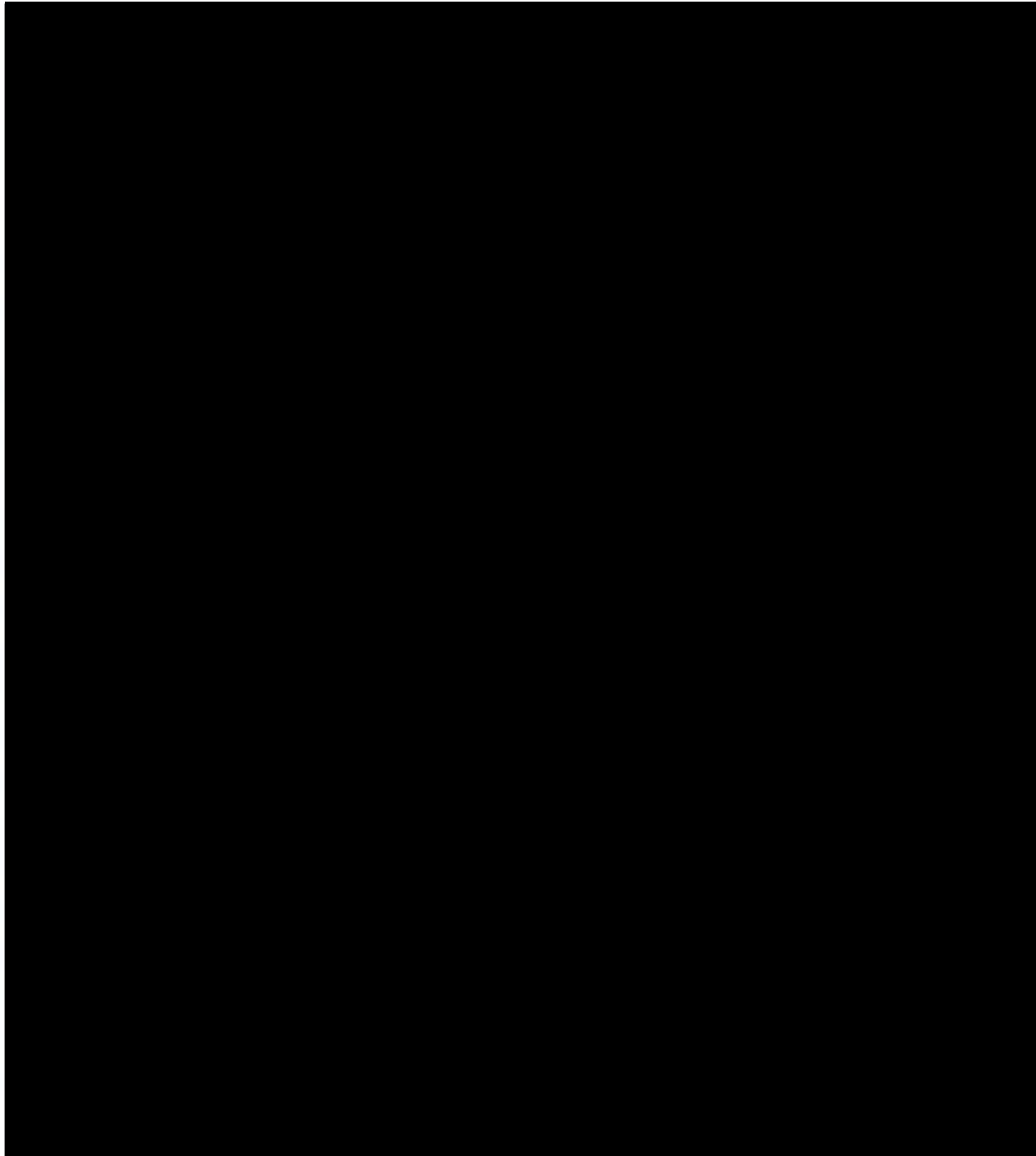
Notes: I apply 2022 ratios to 2023 as the U.S. Census Bureau has not yet released 2023 ACS data.

Sources: U.S. Census Bureau Population Estimates and American Community Survey (ACS).

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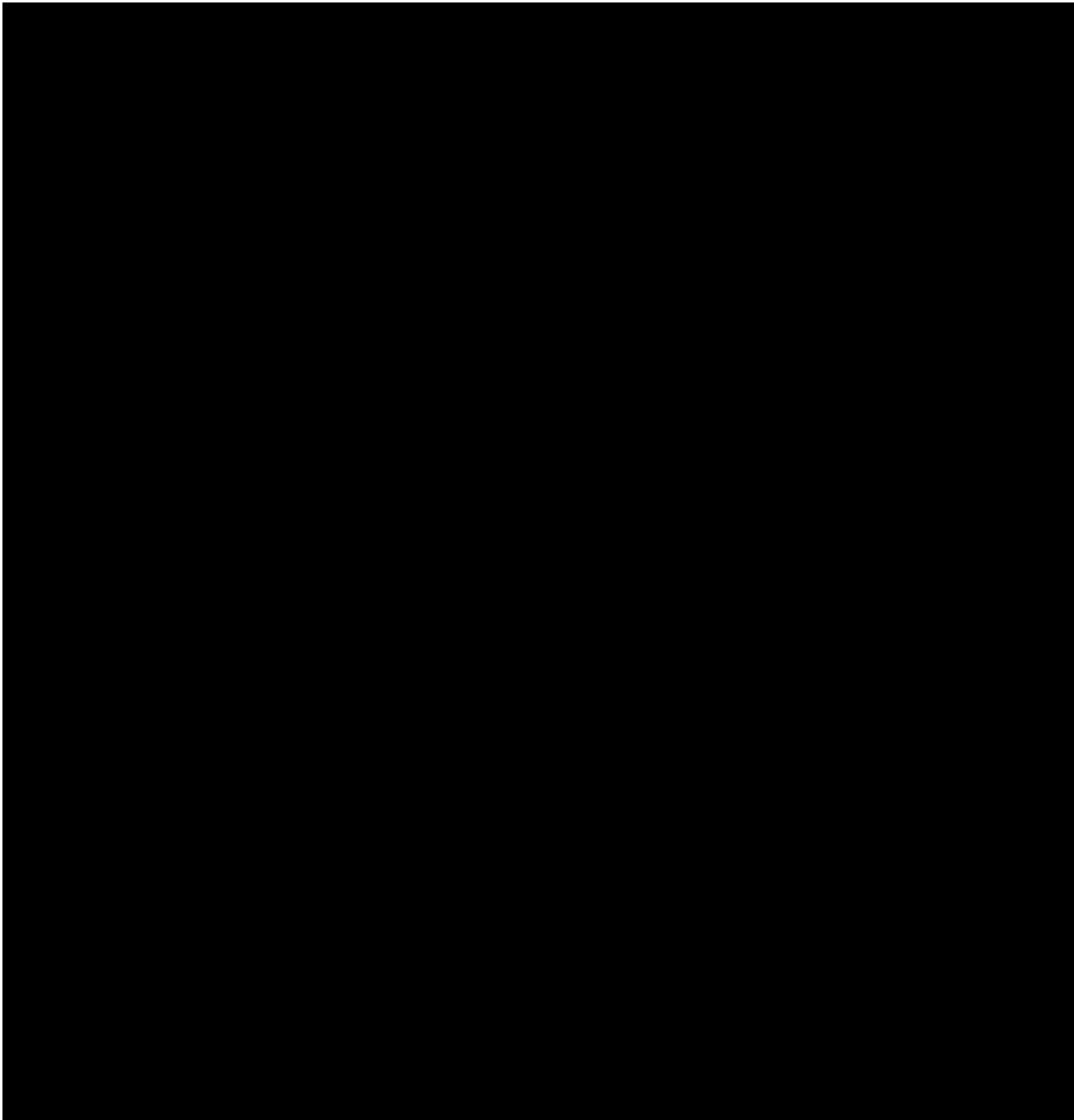
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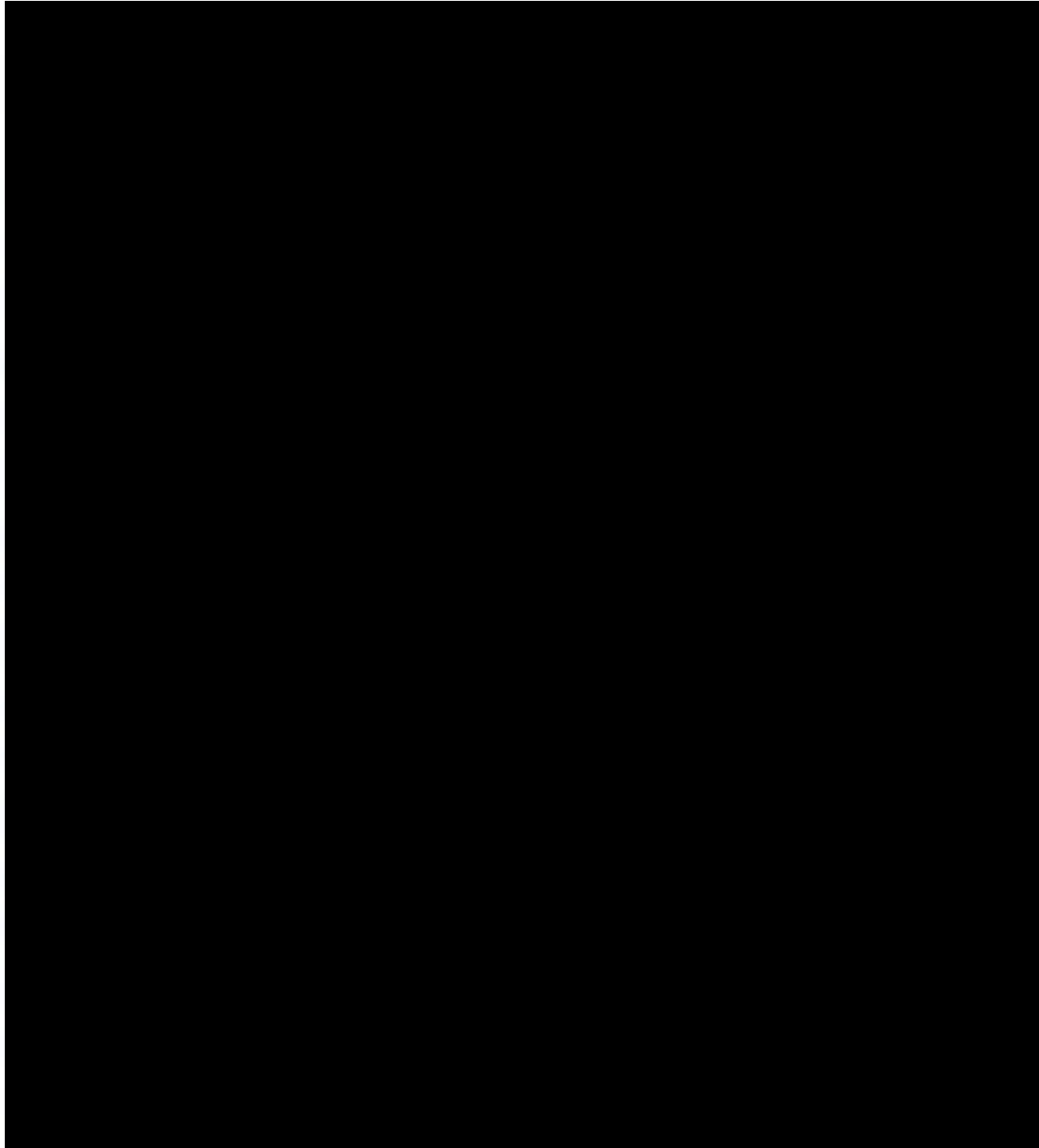
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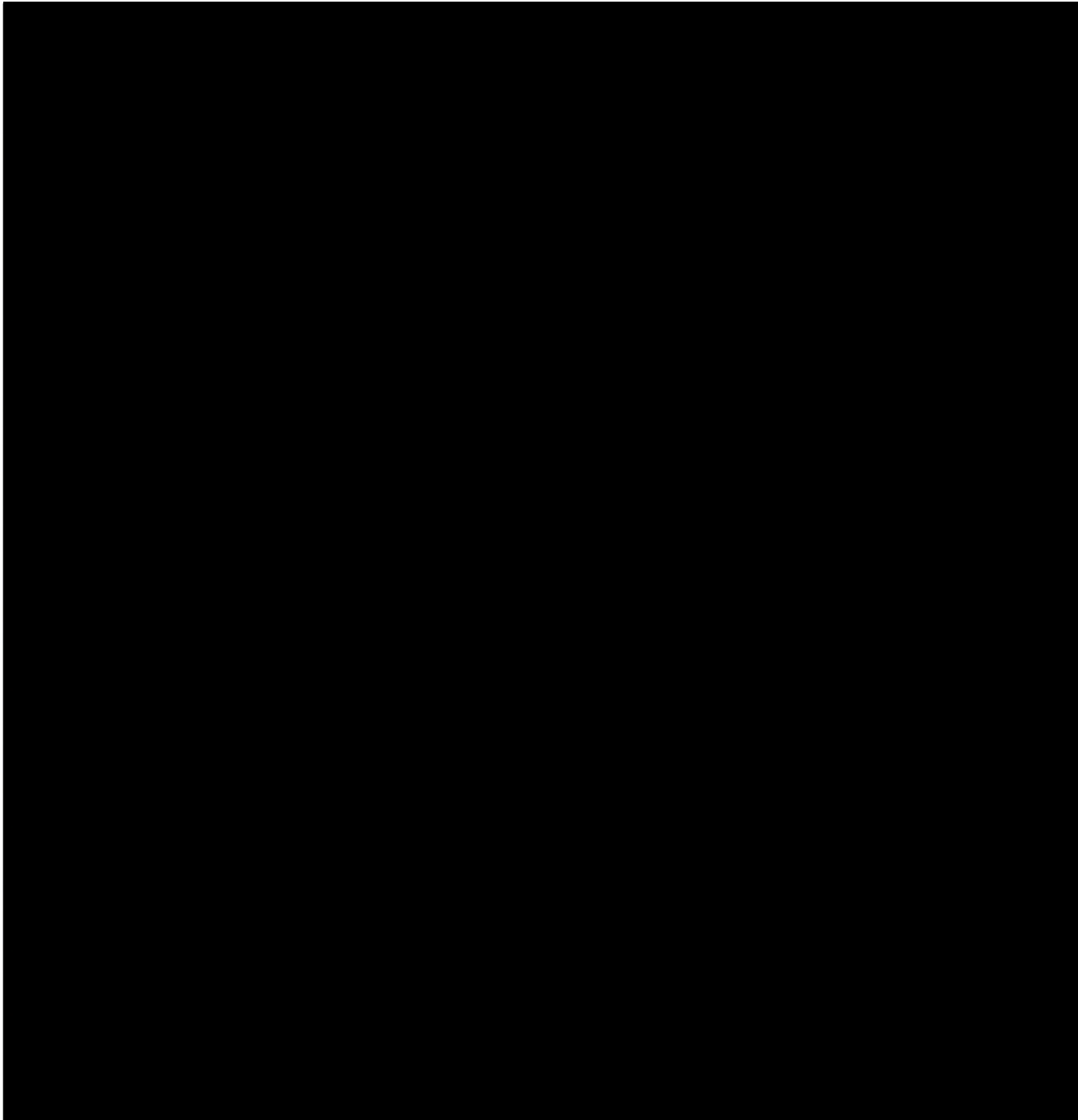
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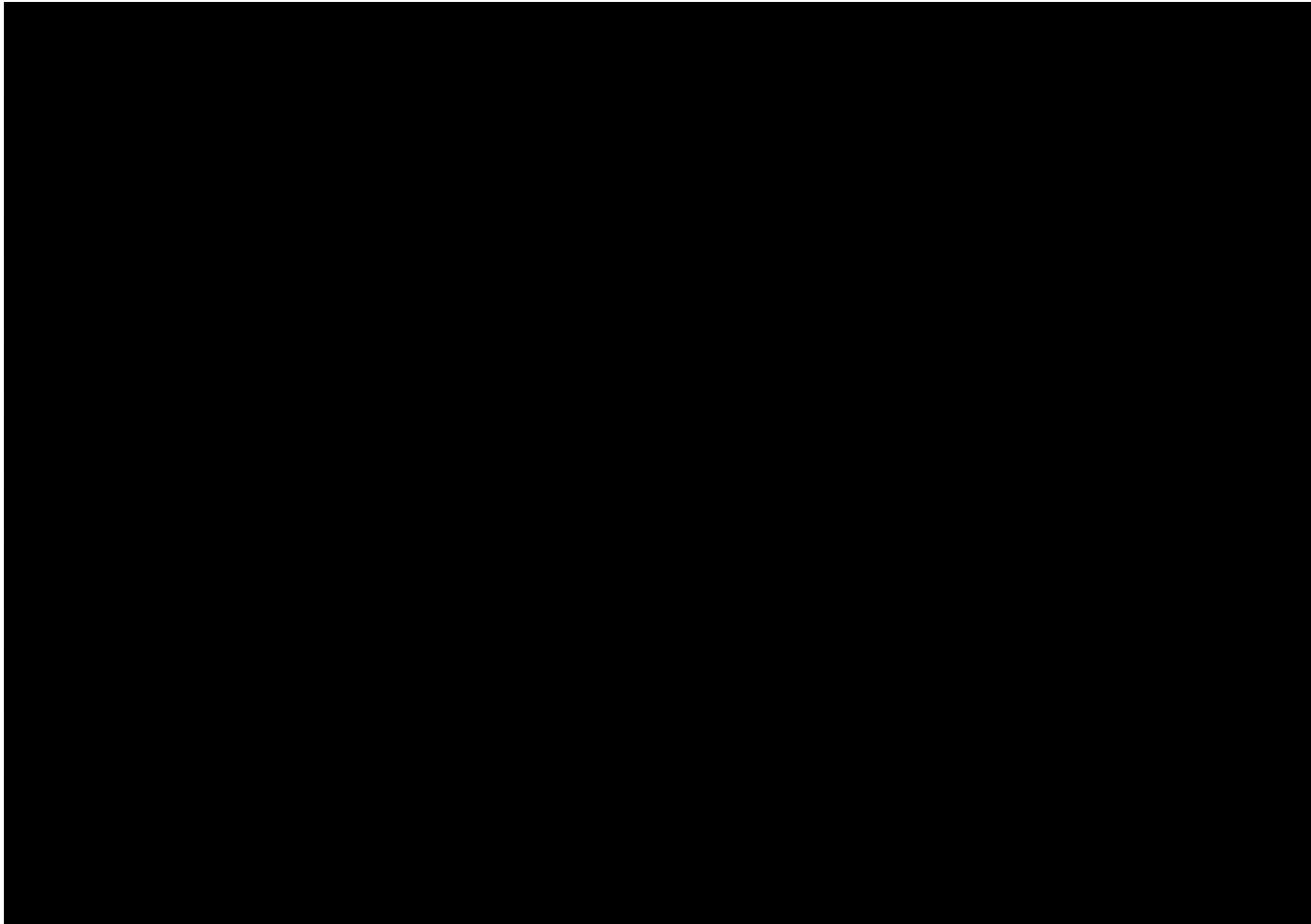
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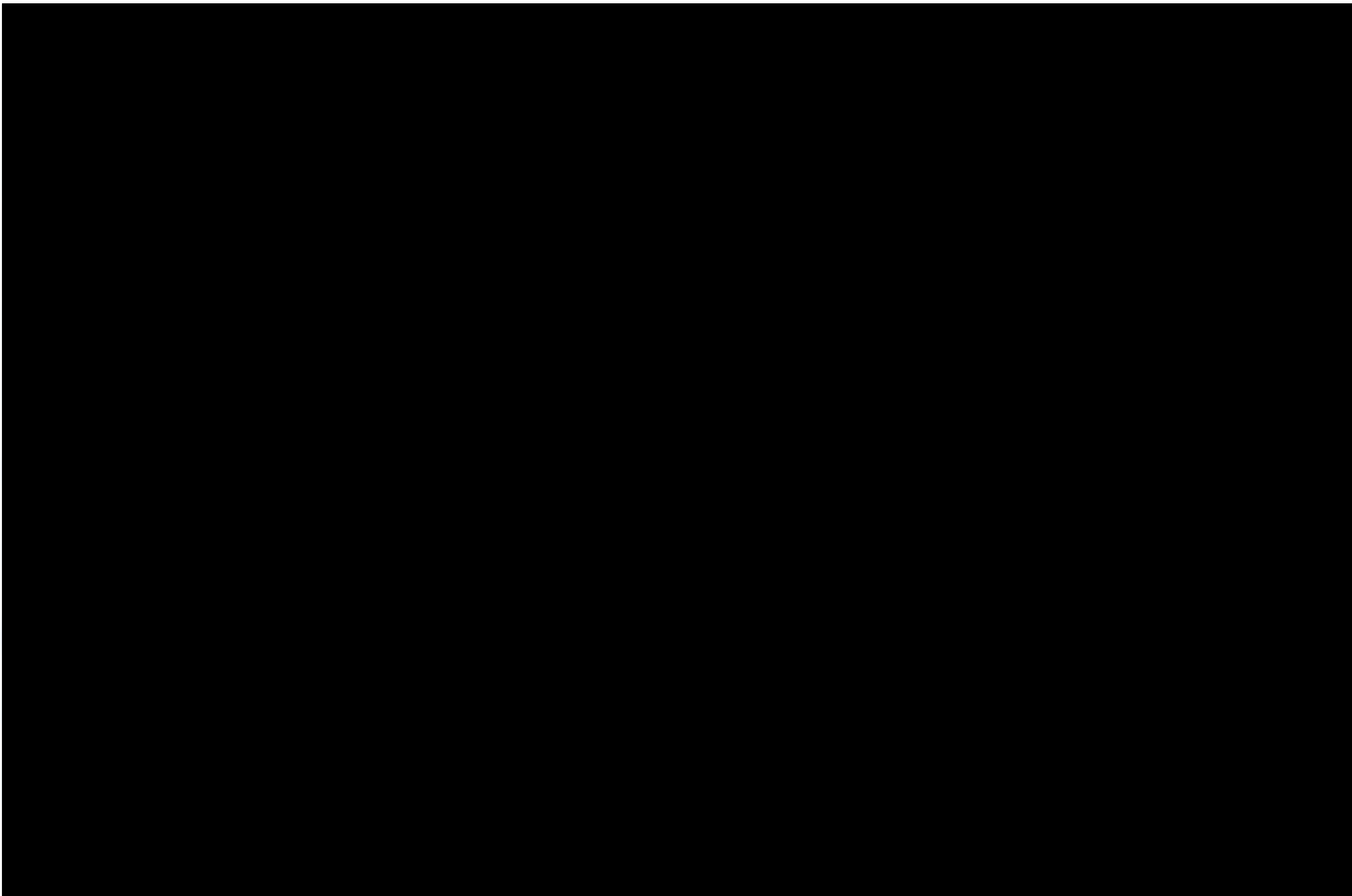
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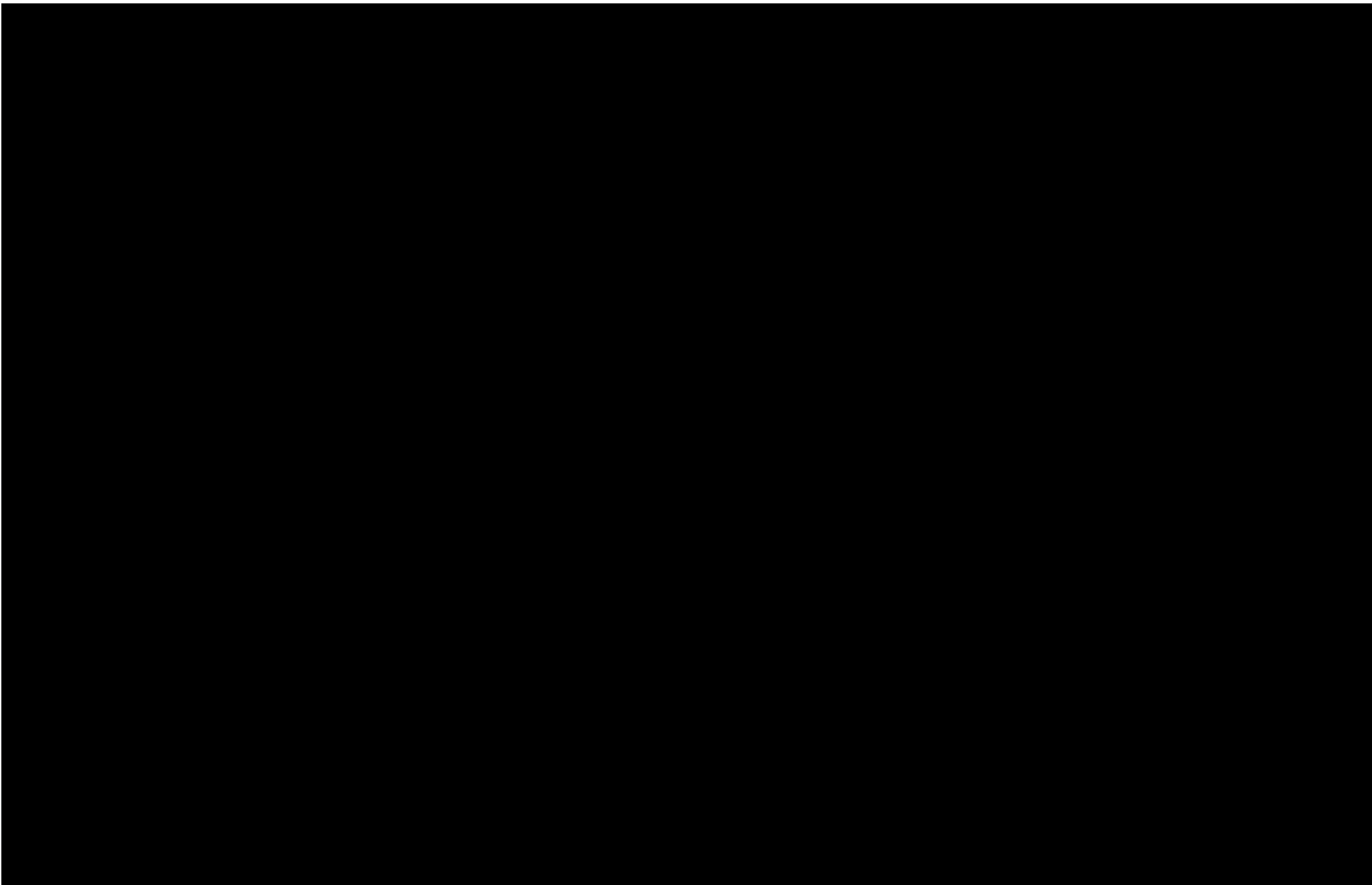
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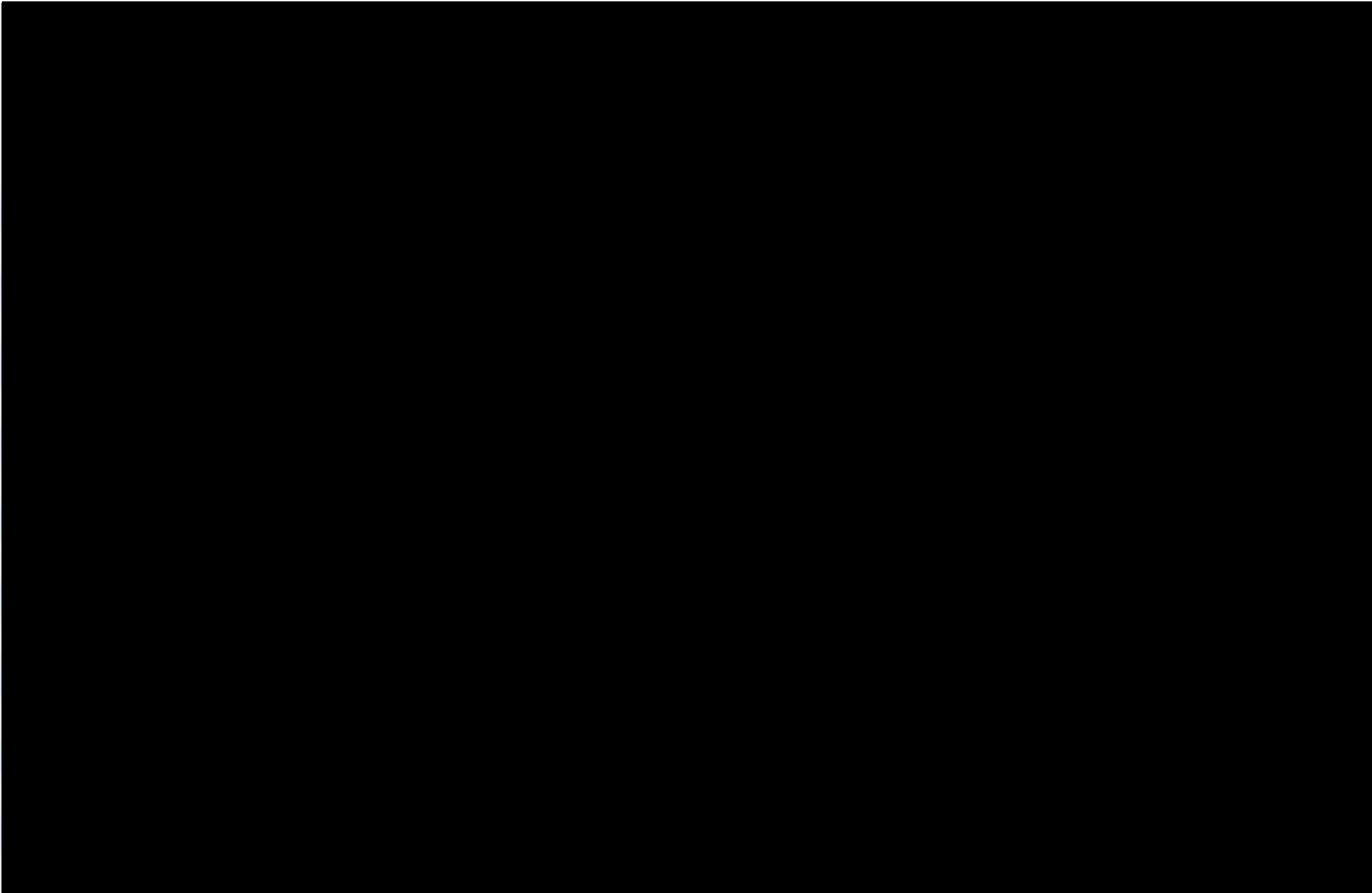
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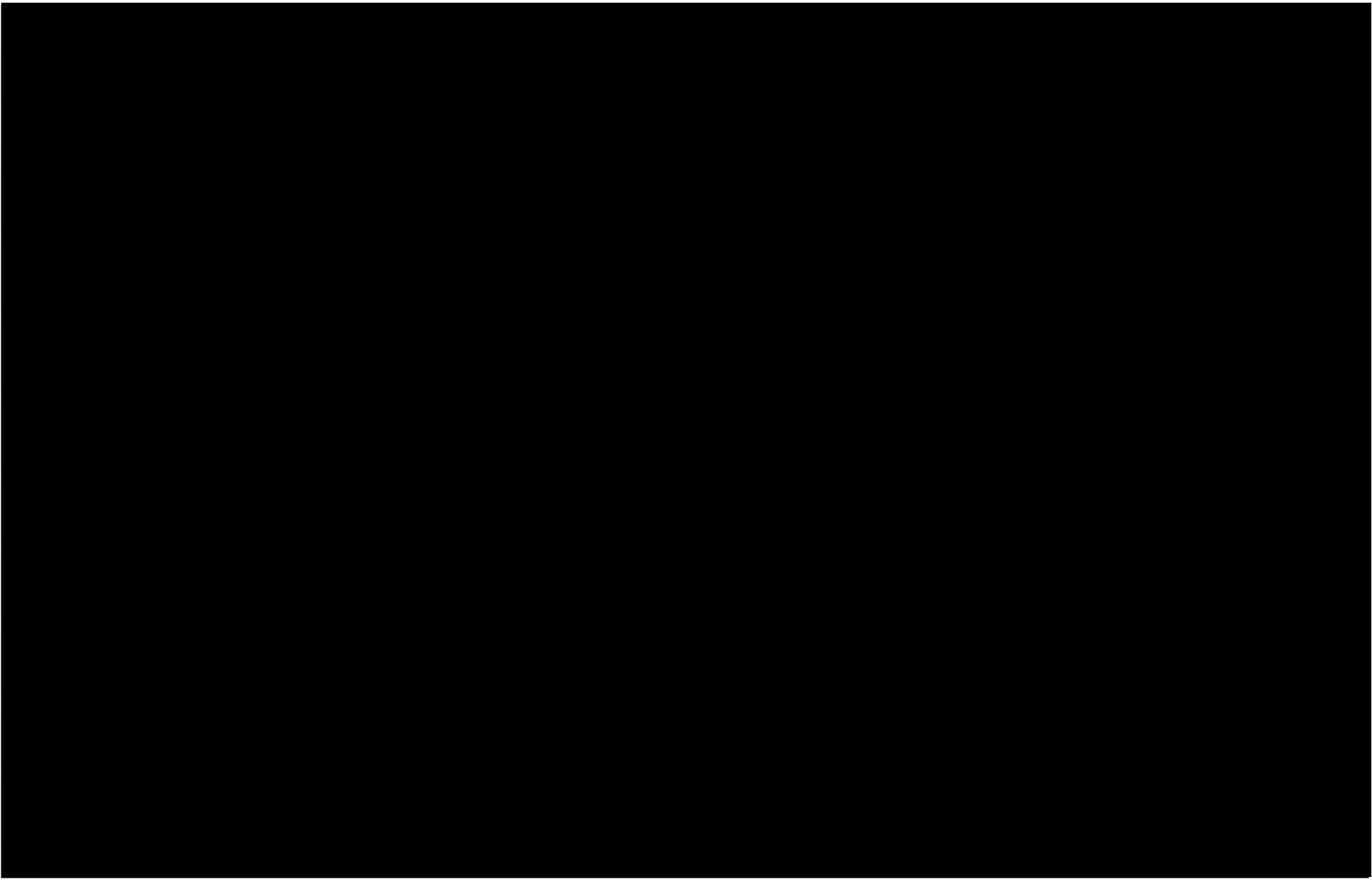
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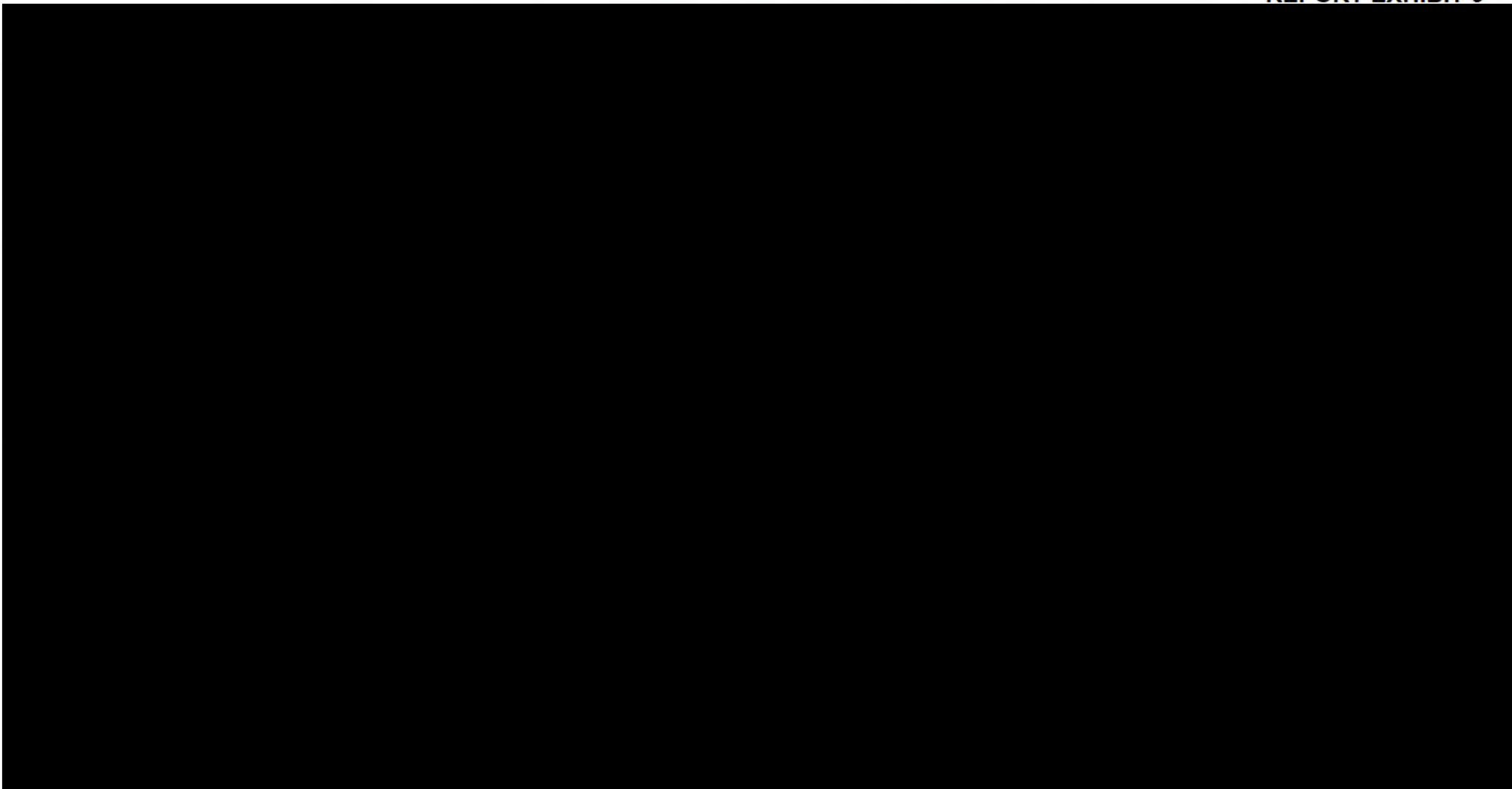
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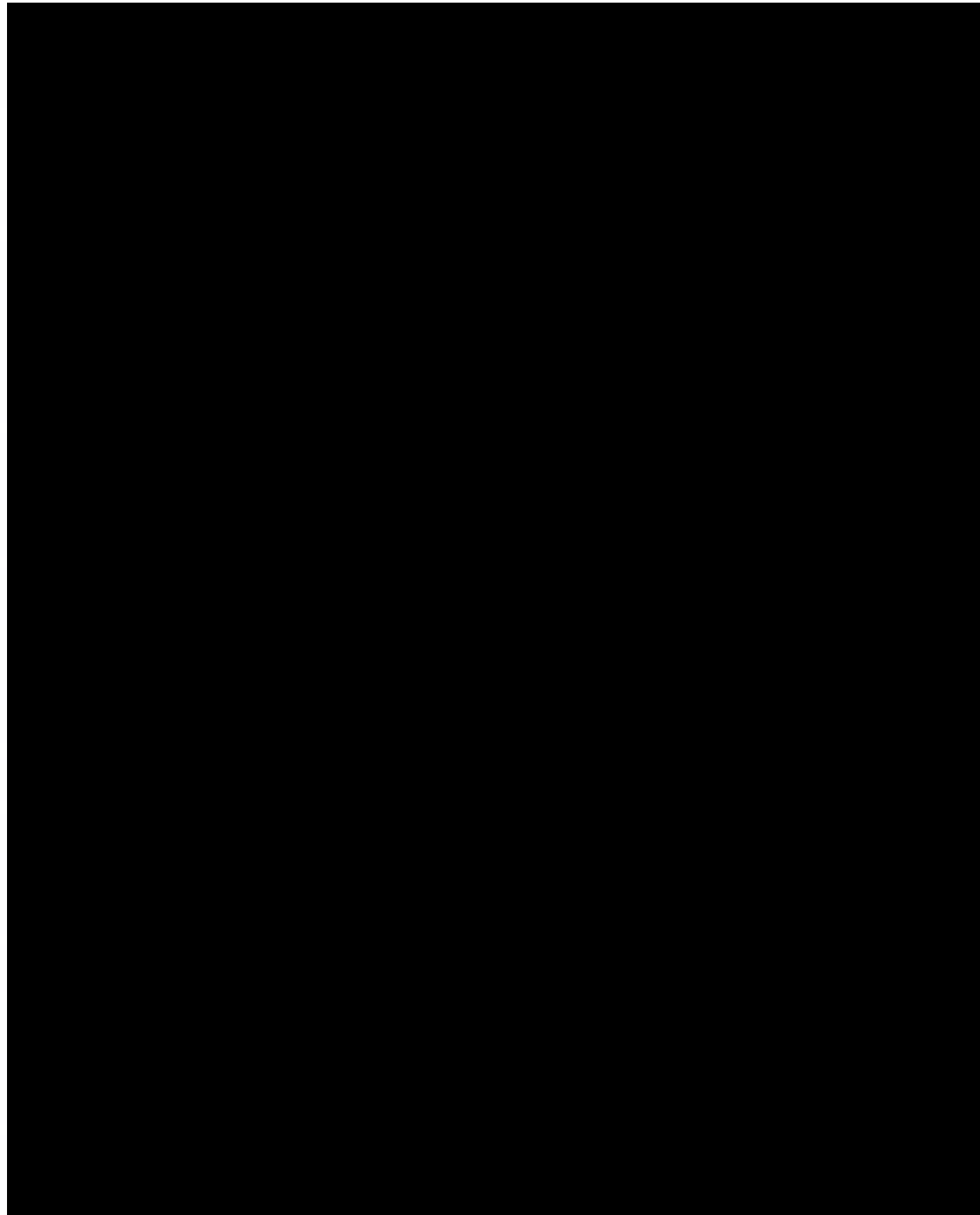
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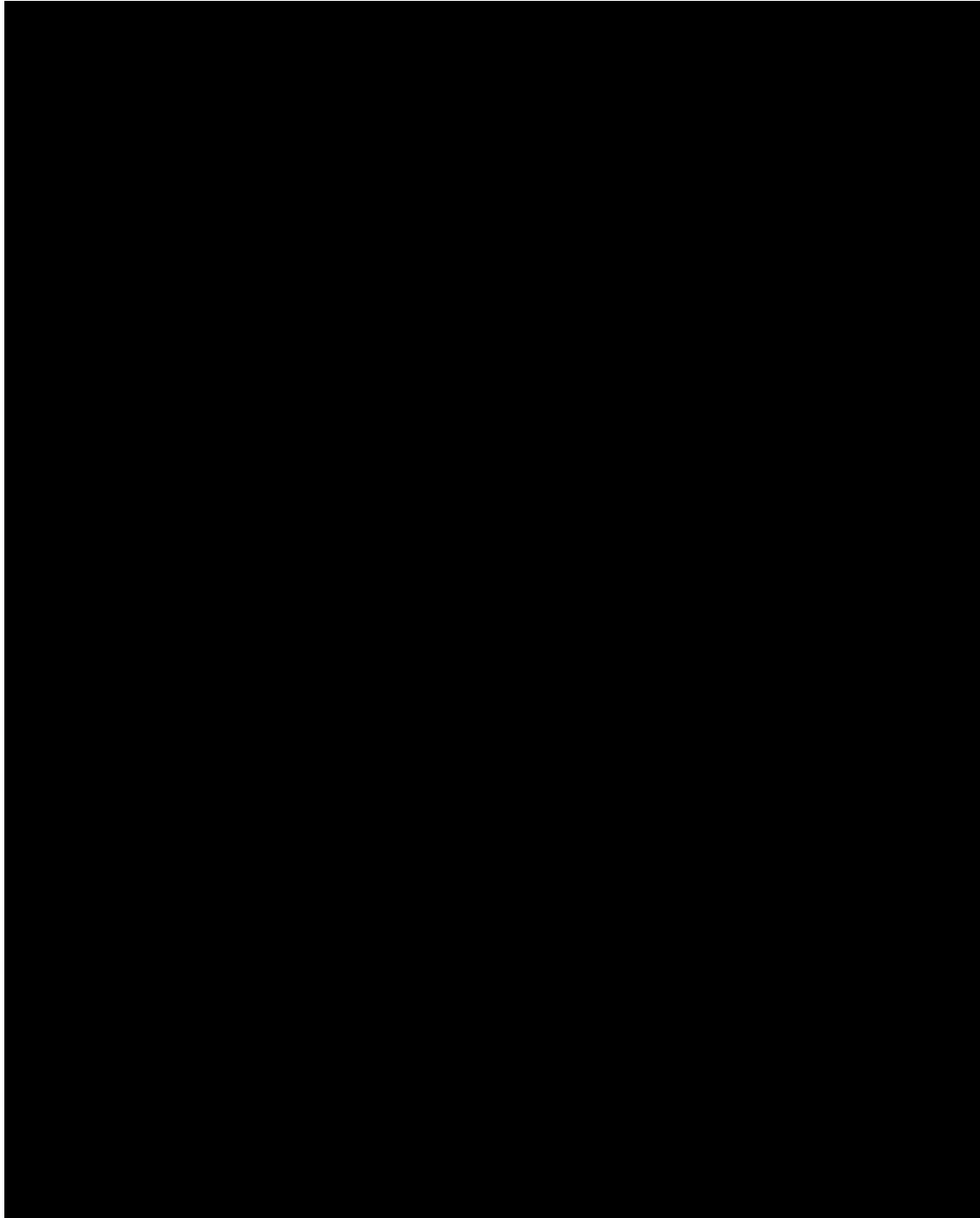
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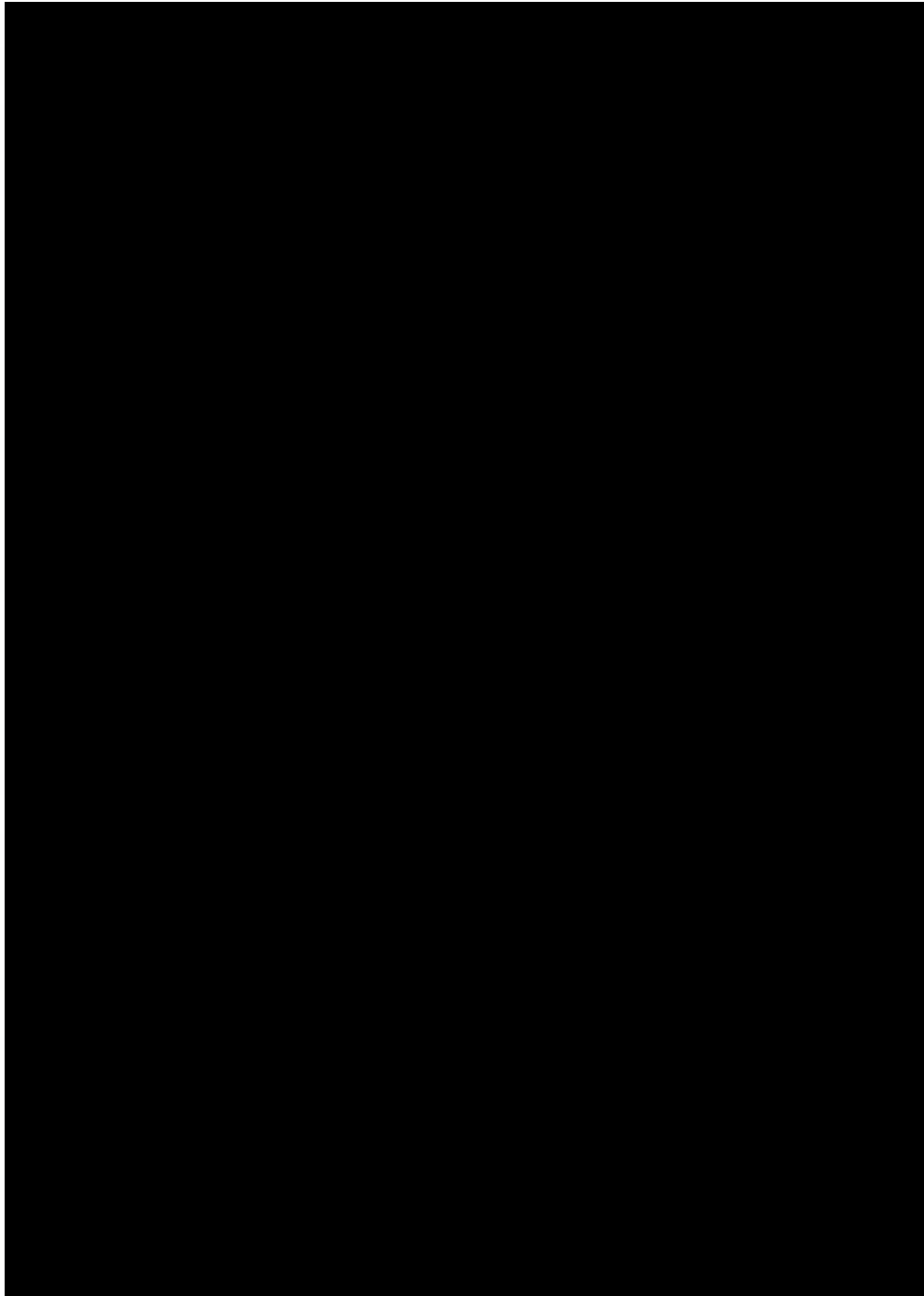


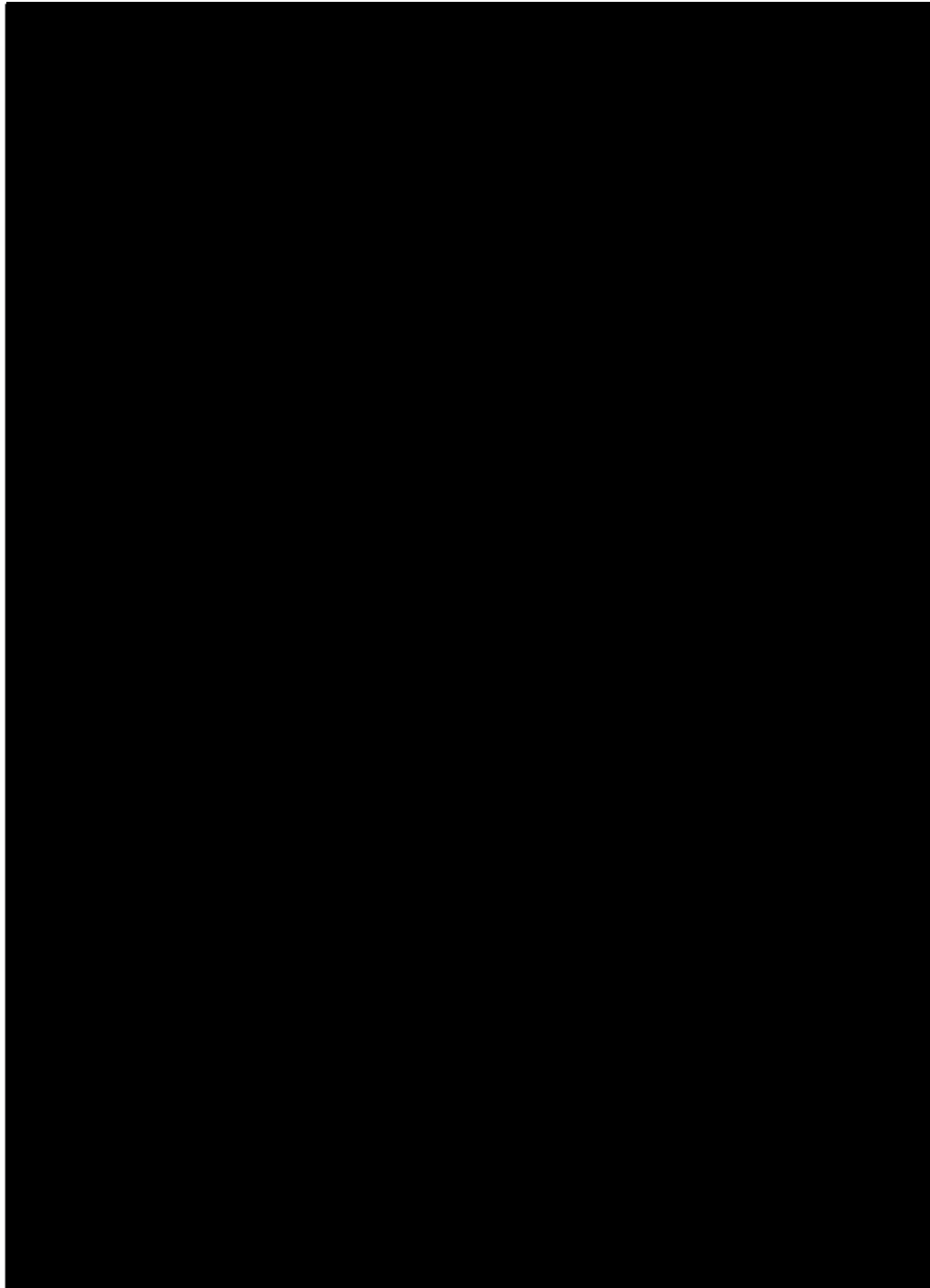
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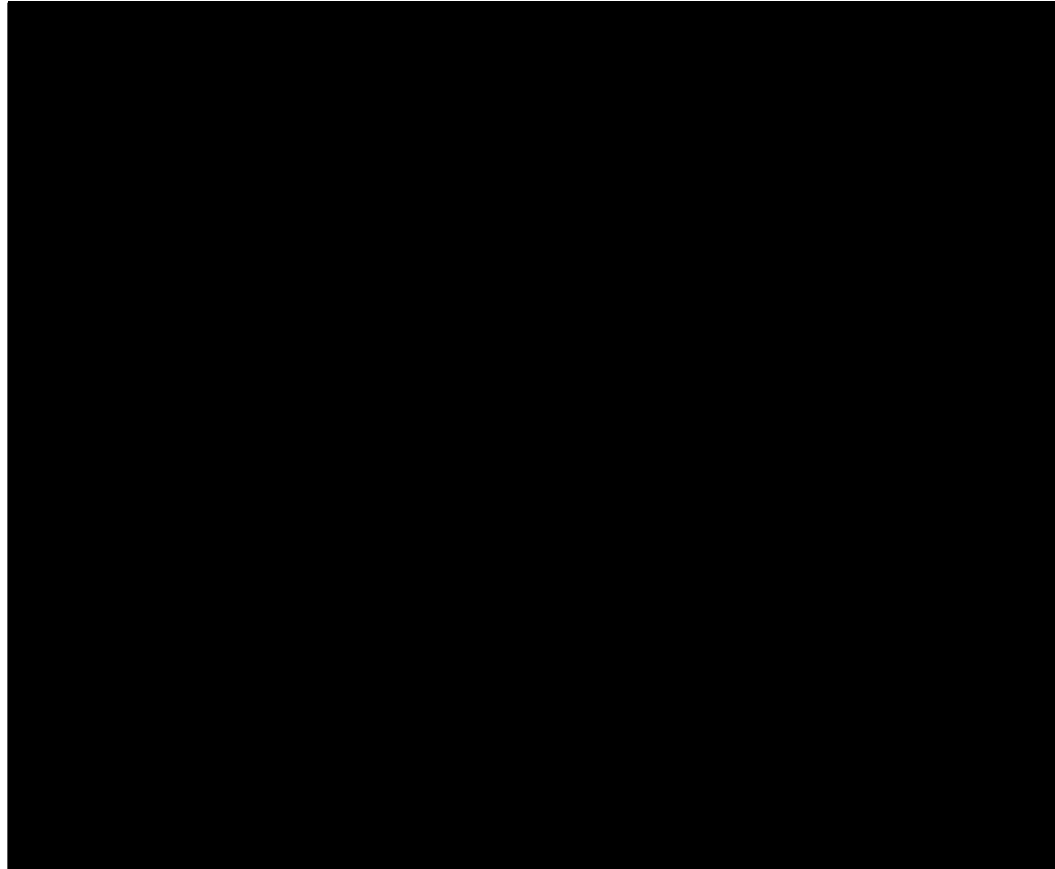
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**UPDATED OPENING
REPORT EXHIBIT 7**

